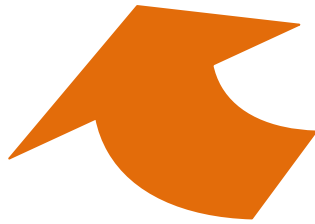


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# Contents

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<b>OSTEOARTHRITIS</b>	<b>4</b>
<b>LOW BACK PAIN</b>	<b>5</b>
<b>ARTHROPLASTY</b>	<b>6</b>
<b>PAEDIATRICS</b>	<b>8</b>
<b>STROKE</b>	<b>11</b>
<b>REHABILITATION</b>	<b>12</b>
<b>CRITICAL CARE</b>	<b>16</b>
<b>BALANCE/STABILITY/MOBILITY</b>	<b>16</b>
<b>OTHER</b>	<b>19</b>

### OSTEOARTHRITIS

#### **Validation of the Chinese (Mandarin) Version of the Oxford Knee Score in Patients with Knee Osteoarthritis.**

**Author(s):** Lin, Kai; Bao, Liangxiao; Wang, Jian; Fujita, Kimie; Makimoto, Kiyoko; Liao, Xiaoyan

**Source:** Clinical Orthopaedics & Related Research; Dec 2017; vol. 475 (no. 12); p. 2992-3004

**Publication Date:** Dec 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28884273

**Abstract:**Background: With the increasing number of patients with knee osteoarthritis undergoing TKAs in China, there is a clear need for a valid, short, joint-specific patient-reported outcome measure such as the Oxford Knee Score (OKS). Questions/purposes: To test the translated and cross-culturally adapted Chinese (Mandarin) version of the Oxford Knee Score (OKS-CV) and its (1) reliability, (2) construct validity, (3) dimensionality, and (4) responsiveness. Methods: Three native Chinese bilingual translators (a professional English translator, an experienced orthopaedic surgeon, an advanced-practice nursing specialist) translated the English-language OKS into Mandarin Chinese. A consensus panel created a synthesis of those efforts, which then was back-translated by two bilingual nonmedical, professional English-language translators. The OKS-CV was developed according to the guidelines of copyright holders. Between March 2013 and March 2015, 253 patients underwent TKAs. Among them, 114 Mandarin-speaking patients with knee osteoarthritis underwent primary unilateral TKA (age,  $67 \pm 7$  years; range, 55-84 years; female, 80%; preoperatively 54% had moderate to severe knee osteoarthritis), completed the preoperative questionnaires, and were followed up, with a mean postoperative followup of 2.7 years (SD, 0.5 years). Eligibility criteria were (1) patients with knee osteoarthritis who were scheduled to have a primary unilateral TKA, (2) patients who were fluent in Mandarin, and (3) consent to participate. The exclusion criteria were: (1) lack of understanding of Mandarin, and (2) inability to comprehend the questionnaires owing to cognitive impairment. To evaluate test-retest reliability, another group of 35 Mandarin-speaking outpatients with knee osteoarthritis (age,  $61 \pm 10$  years; range, 44-84 years; female, 77%) was recruited to complete the OKS-CV twice at a 1-week interval. Reliability was tested using Cronbach's alpha and intraclass correlation coefficient (ICC). Construct validity was evaluated using Spearman's rank correlation coefficient to quantify the correlations between the OKS-CV and the WOMAC, Short Form-8 Health Survey (SF-8TM), and EuroQoL Group 5-Dimension Self-Report Questionnaire (EQ-5D). Exploratory factor analysis was performed to clarify dimensionality. The eigenvalue indicates the importance of each factor obtained from factor analysis. Responsiveness was determined by standardized response mean (SRM) and effect size (ES) from preoperative and postoperative scores of the OKS-CV. Floor and ceiling effects also were analyzed. Results: The internal consistency (Cronbach's alpha = 0.89) and test-retest reliability (ICC = 0.93; 95% CI, 0.87-0.97) proved good. Convergent construct validity was supported by moderate to strong correlations between the OKS-CV and the WOMAC ( $r = -0.80$ ,  $p < 0.001$ ), the SF-8TM physical component summary ( $r = 0.65$ ,  $p < 0.001$ ), and the EQ-5D usual activities ( $r = -0.41$ ,  $p < 0.001$ ) and mobility ( $r = -0.35$ ,  $p < 0.001$ ). There also were correlations between the OKS-CV and the SF-8TM mental component summary ( $r = 0.58$ ,  $p < 0.001$ ) and the EQ-5D anxiety/depression ( $r = -0.35$ ,  $p < 0.001$ ). The factor analysis yielded three factors with eigenvalues greater than 1. Responsiveness was excellent (SRM = 1.52; ES = 1.52). No floor or ceiling effect was observed. Conclusions: The OKS-CV showed good acceptability and psychometric properties for the intended population. Future studies are needed to evaluate the mental state of patients with knee osteoarthritis. Clinical Relevance: The OKS-CV appears to be a reliable, valid, and responsive instrument for Chinese patients with knee osteoarthritis. Based on

these results we believe the OKS-CV can be used as a valuable tool for the assessment of patient-reported outcomes in Chinese patients with knee osteoarthritis before and after TKA.

**Database:** CINAHL

**Conservative management of a traumatic meniscal injury utilising osteopathy and exercise rehabilitation: A case report.**

**Author(s):** Feehan, Jack; Macfarlane, Chris; Vaughan, Brett

**Source:** Complementary Therapies in Medicine; Aug 2017; vol. 33 ; p. 27-31

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28735822

**Abstract:**Meniscal injury is one of the most common knee soft tissue injuries, commonly affecting young athletes and an older, degenerative population. Treatment largely depends on the type and extent of the injury with arthroscopic repair or meniscectomy being mainstays. Although non-surgical approaches have been described, there is no published literature regarding a combination of indirect osteopathic techniques and rehabilitation in the management of these injuries. The current case report follows a 20-year-old male presenting with a 5-day history of acute knee pain, following trauma during an Australian Rules Football (AFL) match. An 8-week management plan of indirect osteopathic techniques and a tailored rehabilitation program was implemented. The Knee Injury and Osteoarthritis Outcome Score (KOOS) and the Lower Extremity Functional Scale (LEFS) questionnaires were utilised to measure outcomes. After the 8-week treatment and rehabilitation program, the patient had exceeded the minimum detectable change score for all outcome measures. This case report suggests that osteopathic manipulative treatment and rehabilitation may be an alternative, non-surgical approach in the management of post-traumatic meniscal injuries.

**Database:** CINAHL

**LOW BACK PAIN**

**Treatment of Low Back Pain.**

**Author(s):** Wenger, Hannah C.; Cifu, Adam S.

**Source:** JAMA: Journal of the American Medical Association; Aug 2017; vol. 318 (no. 8); p. 743-744

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28829855

Available at [JAMA : the journal of the American Medical Association](#) - from EBSCO (MEDLINE Complete)

**Abstract:**The article discusses research involving the treatment of acute, subacute, and chronic low back pain in patients aged 18 years and older, and it mentions treatment regimens such as massage, acupuncture, and spinal manipulation. Nonsteroidal anti-inflammatory drugs (NSAIDs) and skeletal muscle relaxants are examined, along with therapeutic medications such as tramadol and duloxetine. A pain treatment guideline from the American College of Physicians' Clinical Guidelines Committee is assessed.

**Database:** CINAHL

**Comparative effects of 12 weeks of equipment based and mat Pilates in patients with Chronic Low Back Pain on pain, function and transversus abdominis activation. A randomized controlled trial.**

**Author(s):** Cruz-Díaz, David; Martínez-Amat, Antonio; Hita-Contreras, Fidel; Bergamin, M.; Gobbo, S.

**Source:** Complementary Therapies in Medicine; Aug 2017; vol. 33 ; p. 72-77

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28735829

**Abstract:**Background: Pilates method has been recommended for patients with chronic low back pain (CLBP) and the activation of transversus abdominis has been deemed to play an important role in the improvement of these patients. Nevertheless, the evidence of the activation of TrA in Pilates practitioners remains unclear.Objective: To assess the effectiveness of 12 weeks of Pilates practice in disability, pain, kinesiophobia and transversus abdominis activation in patients with chronic nonspecific Low Back Pain.Design: A randomized controlled trial was carried out.Methods: A single-blind randomized controlled trial with repeated measures at 6 and 12 weeks was carried out. A total of ninety eight patients with low back pain were included and randomly allocated to a Pilates Mat group (PMG) equipment based with apparatus Pilates (PAG) or control group (CG). Roland Morris Disability Questionnaire (RMDQ), visual analog scale (VAS) Tampa Scale of Kinesiophobia (TSK), and transversus abdominis (TrA) activation assessed by real time ultrasound measurement (US) were assessed as outcome measures.Results: Improvement were observed in both intervention groups in all the included variables at 6 and 12 weeks ( $p < 0.001$ ). Faster enhancement was observed in the equipment based Pilates group ( $p = 0.007$ ).Conclusions: Equipment based and mat Pilates modalities are both effective in the improvement of TaA activation in patients with CLBP with associate improvement on pain, function and kinesiophobia. Significant differences were observed after 12 weeks of intervention in PMG and PAG with faster improvement in PAG suggesting that, feedback provided by equipment could help in the interiorization of Pilates principles.

**Database:** CINAHL

**ARTHROPLASTY**

**Enhancing Recovery After Total Knee Arthroplasty.**

**Author(s):** Rutherford, Richard W; Jennings, Jason M; Dennis, Douglas A

**Source:** Orthopedic Clinics of North America; Oct 2017; vol. 48 (no. 4); p. 391-400

**Publication Date:** Oct 2017

**Publication Type(s):** Periodical

**PubMedID:** 28870300

**Abstract:**There have been multiple successful efforts to improve and shorten the recovery period after elective total joint arthroplasty. The development of rapid recovery protocols through a multidisciplinary approach has occurred in recent years to improve patient satisfaction as well as outcomes. Bundled care payment programs and the practice of outpatient total joint arthroplasty have provided additional pressure and incentives for surgeons to provide high-quality care with low cost and complications. In this review, the evidence for modern practices are reviewed regarding patient selection and education, anesthetic techniques, perioperative pain management, intraoperative factors, blood management, and postoperative rehabilitation.

**Database:** CINAHL

**Early High-Intensity Versus Low-Intensity Rehabilitation After Total Knee Arthroplasty: A Randomized Controlled Trial.**

**Author(s):** Bade, Michael J.; Struessel, Tamara; Dayton, Michael; Foran, Jared; Kim, Raymond H.; Miner, Todd; Wolfe, Pamela; Kohrt, Wendy M.; Dennis, Douglas; Stevens-Lapsley, Jennifer E.

**Source:** Arthritis Care & Research; Sep 2017; vol. 69 (no. 9); p. 1360-1368

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 27813347

**Abstract:**Objective: To examine the safety and efficacy of a high-intensity (HI) progressive rehabilitation protocol beginning 4 days after total knee arthroplasty (TKA) compared to a low-intensity (LI) rehabilitation protocol. Methods: A total of 162 participants (mean  $\pm$  SD ages 63  $\pm$  7 years; 89 women) were randomized to either the HI group or LI group after TKA. Key components of the HI intervention were the use of progressive resistance exercises and a rapid progression to weight-bearing exercises and activities. Both groups were treated in an outpatient setting 2 to 3 times per week for 11 weeks (26 total sessions). Outcomes included the stair climbing test (SCT; primary outcome), timed-up-and-go (TUG) test, 6-minute walk (6MW) test, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), 12-item Short Form health survey (SF-12), knee range of motion (ROM), quadriceps and hamstring strength, and quadriceps activation. Outcomes were assessed preoperatively and at 1, 2, 3 (primary end point), 6, and 12 months postoperatively. Results: There were no significant differences between groups at 3 or 12 months in SCT, TUG, 6MW, WOMAC scores, knee ROM, quadriceps and hamstrings strength, quadriceps activation, or adverse event rates. By 12 months, outcomes on the 6MW, TUG, WOMAC, SF-12, quadriceps and hamstring strength, and quadriceps activation had improved beyond baseline performance in both groups. Conclusion: Both the HI and LI interventions were effective in improving strength and function after TKA. HI progressive rehabilitation is safe for individuals after TKA. However, its effectiveness may be limited by arthrogenic muscular inhibition in the early postoperative period.

**Database:** CINAHL

**The cost-effectiveness of TheraBite® as treatment for acute myogenic temporomandibular disorder.**

**Author(s):** Diddens, Andreas Heres; Kraaijenga, Sophie; van der Molen, Lisette; Hilgers, Frans; Smeele, Ludi; Coupé, Veerle; Retèl, Valesca; Heres Diddens, Andreas

**Source:** CRANIO: The Journal of Craniomandibular & Sleep Practice; Sep 2017; vol. 35 (no. 5); p. 290-297

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 27630036

**Abstract:**Objective: Temporomandibular disorder (TMD) is a very common and costly pain problem concerning the temporomandibular joint. A previous study has shown that for the treatment of acute myogenic TMD, TheraBite® (TB) offers a faster and greater effect than usual care consisting of physical therapy (PT). This study estimates the cost-effectiveness of TB compared to PT. Methods: Differences in costs and quality-adjusted life-years (QALYs) between TB and PT are analyzed using a decision model. Results: The point estimate for the incremental cost-effectiveness ratio is -28,068 EUR (-30,191 USD) per QALY (dominant) for TB versus PT. At the willingness-to-pay ratio of 20,000 EUR (21,513 USD) per QALY, TB has a 97% probability of being cost-effective compared to

PT.Conclusion: TB is expected to be cost-effective compared to PT for the treatment of acute myogenic TMD, offering faster recovery of quality of life for patients, at a lower cost to society.

**Database:** CINAHL

### **Perioperative Physiotherapy in Total Knee Arthroplasty.**

**Author(s):** JOICE, MELVIN G.; BHOWMICK, SUBHROJYOTI; AMANATULLAH, DEREK F.

**Source:** Orthopedics; Sep 2017; vol. 40 (no. 5)

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28530765

**Abstract:**Total knee arthroplasty has a high success rate. In the interest of enhancing patient outcomes, numerous perioperative interventions have been studied, including preoperative education, preoperative rehabilitation, postoperative inpatient rehabilitation, continuous passive motion, postoperative outpatient rehabilitation, unsupervised in-home exercises, telerehabilitation, and various combinations of these. This comprehensive review analyzes the existing body of evidence on these perioperative interventions and examines some burgeoning opportunities in rehabilitation after total knee arthroplasty in the interest of improving patient outcomes and ensuring sustainable health care utilization for the future of total knee arthroplasty. [Orthopedics. 2017; 40(5):e765-e773.].

**Database:** CINAHL

### **Periarticular Liposomal Bupivacaine Injection Versus Intra-Articular Bupivacaine Infusion Catheter for Analgesia After Total Knee Arthroplasty: A Double-Blinded, Randomized Controlled Trial.**

**Author(s):** Smith, Eric B.; Kazarian, Gregory S.; Maltenfort, Mitchell G.; Lonner, Jess H.; Sharkey, Peter F.; Good, Robert P.

**Source:** Journal of Bone & Joint Surgery, American Volume; Aug 2017; vol. 99 (no. 16); p. 1337-1344

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28816893

**Abstract:**Background: Intra-articular bupivacaine hydrochloride (HCl) infusion catheters and periarticular injections of liposomal bupivacaine are often used as postoperative local anesthetics. The purpose of this study was to compare the efficacies of these local anesthetics following total knee arthroplasty.Methods: This study was a superiority trial with a randomized, controlled, double-blinded design. Patients were randomly assigned to either delivery of bupivacaine HCl by the ON-Q\* Pain Relief System pump (n = 96) or by an injection of Exparel (liposomal bupivacaine) (n = 104). The primary outcome of this study was cumulative narcotic consumption on postoperative days 0 through 3. Narcotic consumption data were collected retrospectively from in-hospital records while patients were in the hospital. Following discharge, narcotic consumption data were gathered from patient surveys, as were secondary outcomes measures.Results: We did not identify greater narcotic use in the ON-Q\* group compared with the Exparel group (p = 0.641). The mean difference between the groups was 0.5 morphine equivalent (95% confidence interval [CI] = -1.7 to +2.8), with the ON-Q\* group consuming an average 10.4 morphine equivalents (95% CI = 8.7 to 12.0) compared with 10.9 (95% CI = 9.3 to 12.5) in the Exparel group. There were no significant differences between groups with regard to any of the secondary measures of pain with the exception of pain while



walking and pain with physical therapy ( $p = 0.019$  and  $p = 0.010$ , respectively), both of which showed an approximately 1-point difference in favor of the ON-Q\* group on a visual analog scale (VAS). There were also no differences in the postoperative side effects, including nausea, constipation, or vomiting, or in the rates of study-related complications, patient satisfaction, or length of hospital stay. **Conclusions:** Exparel did not have superior efficacy compared with the ON-Q\* Pain Relief System as reflected by narcotic consumption, our primary outcome. There were small significant differences, in favor of the ON-Q\* group, in 2 secondary measures of pain during activity, but these approximately 1-point VAS differences are unlikely to be clinically relevant. The choice of a local anesthetic modality should be based on a combination of safety, convenience, and cost considerations. **Level Of Evidence:** Therapeutic Level I. See Instructions for Authors for a complete description of levels of evidence.

**Database:** CINAHL

## PAEDIATRICS

### **Exercise performance and quality of life in children with cystic fibrosis and mildly impaired lung function: relation with antibiotic treatments and hospitalization.**

**Author(s):** Vandekerckhove, Kristof; Keyzer, Michiel; Cornette, Jasper; Coomans, Ilse; Pyl, Filip; De Baets, Frans; Schelstraete, Petra; Haerynck, Filomeen; De Wolf, Daniel; Van Daele, Sabine; Boone, Jan

**Source:** European Journal of Pediatrics; Dec 2017; vol. 176 (no. 12); p. 1689-1696

**Publication Date:** Dec 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28965267

**Abstract:** This study evaluates the impact of antibiotic treatments and hospitalization on exercise performance and health-related quality of life (QOL) in children with mild cystic fibrosis (CF) lung disease. Forty-seven children between 7 and 17 years with mild CF underwent a maximal exercise test including spiro-ergometry and filled out a QOL-questionnaire (PedsQL™). Amount of antibiotic treatments (AB) and hospitalization days in the last 3 years were reviewed. FEV1% was mildly decreased ( $91.7 \pm 17.9$  L/min,  $p = 0.02$ ). Maximal oxygen consumption (VO2max), test duration and anaerobic threshold were lower compared to a control population (VO2max%  $94 \pm 15$  vs  $103 \pm 13$ ,  $p = 0.009$ ). FEV1% correlated with AB and hospitalization episodes in the last year and 3 years before testing, VO2max% only correlated with AB in the last 3 years. Domains of school functioning and emotional functioning were low. Children with higher VO2max% and less AB in the last 3 years had better physical health. Physical health and school functioning were negatively correlated with hospitalization days in the last year. **Conclusion:** Patients with mild CF lung disease have good exercise performance although still lower than the normal population. VO2max% is affected by number of antibiotic treatments over a longer period. There is an impact of hospitalization days on quality of life. **What is Known:** • Children with CF have lower exercise performance; there is an association between hospitalization frequency and exercise performance • Quality of life is diminished in children with CF and influenced by respiratory infections **What is New:** • Even patients with mild CF lung disease have lower maximal exercise performance (VO 2 max) and a lower anaerobic threshold; VO 2 max is lower in children who had more antibiotic treatments in the last 3 years • School and emotional functioning are diminished in children with mild CF lung disease; hospitalization is negatively correlated with school functioning and physical functioning.

**Database:** CINAHL

**Gait performance measures for children with neuromotor disorders in inpatient rehabilitation.**

**Author(s):** Rodda, Jill

**Source:** Developmental Medicine & Child Neurology; Nov 2017; vol. 59 (no. 11); p. 1106-1106

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 29064100

Available at [Developmental Medicine and Child Neurology](#) - from Wiley Online Library All Journals

**Abstract:**The author comments on a study by C. Amman-Rieffer and colleagues on the use of two gait performance measures, the Function Mobility Scale (FMS) and the Gillette Functional Assessment Questionnaire (FAQ). Topics discussed include the importance of accurate assessment of gait performance during the inpatient rehabilitation program, reliability of both the FMS and FAQ, and comparison between FAQ and FMS.

**Database:** CINAHL

**Coaction of individual and environmental factors: a review of intensive therapy paradigms for children with unilateral spastic cerebral palsy.**

**Author(s):** Ferre, Claudio L; Gordon, Andrew M

**Source:** Developmental Medicine & Child Neurology; Nov 2017; vol. 59 (no. 11); p. 1139-1145

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28749087

Available at [Developmental Medicine and Child Neurology](#) - from Wiley Online Library All Journals

**Abstract:**Evidence-based treatment approaches for children with unilateral spastic cerebral palsy are expanding and being modified to fit the constraints of families and the child receiving treatment. In this review, we first provide an overview of a theoretical framework that considers the intricate interactions between the individual child and the environment in which treatment is provided. Next, we describe intensive interventions that have strong support for their efficacy. We also highlight the heterogeneity with which children respond to these approaches. Individual characteristics that might affect responsiveness are summarized. We propose that a one-size-fits-all approach may not be as efficacious as approaches based on the specific brain damage and resulting development of the corticospinal tract. Finally, we review evidence suggesting that the environment can be structured to promote opportunities for intensive practice and self-generated movement-two important aspects of efficacious treatments. Emphasis is placed on intensive home programs delivered by caregivers. What This Paper Adds: Considerable variability exists in how children with unilateral spastic cerebral palsy respond to intensive upper extremity therapies. Individual and environmental factors interact to shape responsiveness.

**Database:** CINAHL

**Interrater reliability of two gait performance measures in children with neuromotor disorders across two different settings.**

**Author(s):** Ammann-Reiffer, Corinne; Bastiaenen, Caroline H G; Bie, Rob A; Hedel, Hubertus J A; de Bie, Rob A; van Hedel, Hubertus J A

**Source:** Developmental Medicine & Child Neurology; Nov 2017; vol. 59 (no. 11); p. 1158-1163

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28832988

Available at [Developmental Medicine and Child Neurology](#) - from Wiley Online Library All Journals

**Abstract:****Aim:** To examine the interrater agreement of the two gait performance measures - the Functional Mobility Scale (FMS) and Gillette Functional Assessment Questionnaire - walking scale (FAQ) - within health professionals and parents in children with neuromotor disorders, measured in an inpatient setting and at home.**Method:** Seventy-one children with a neuromotor diagnosis (44 males, 27 females; median age 12y 11mo [interquartile range 4y-10mo]) were consecutively recruited when starting an inpatient active gait rehabilitation programme. Physiotherapists and nurses independently scored the level of children's gait performance with the FMS and the FAQ, while parents' scores regarding the children's gait performance at home were obtained by interview or telephone call at the same measurement points.**Results:** Linear weighted kappa coefficients were substantial to almost perfect for all comparisons. Kappa coefficients ranged from 0.62 to 0.85 for the FMS-5, from 0.79 to 0.92 for the FMS-50, from 0.83 to 0.90 for the FMS-500, and from 0.69 to 0.77 for the FAQ. Friedman tests did not reveal significant differences between the different rater groups.**Interpretation:** The unexpectedly high level of interrater agreement between parents, physiotherapists, and nurses demonstrates that the FMS and FAQ can reliably assess gait performance in an inpatient setting. Inpatient scores correspond well to the children's performance in their usual environment.**What This Paper Adds:** The Functional Mobility Scale and Gillette Functional Assessment Questionnaire - walking scale measure gait performance reliably at home and in an inpatient setting. Physiotherapists, nurses, and parents reliably score gait performance. Inpatient gait performance scores correspond well to children's performance at home. Physiotherapists and nurses in an inpatient setting can reliably estimate gait performance at home.

**Database:** CINAHL

### **Physical Therapy for Fecal Incontinence in Children with Pelvic Floor Dyssynergia.**

**Author(s):** Muddasani, Swathi; Moe, Amanda; Semmelrock, Caitlin; Gilbert, Caroyl Luan; Enemu, Valentine; Chiou, Eric Howard; Chumpitazi, Bruno Pedro

**Source:** Journal of Pediatrics; Nov 2017; vol. 190 ; p. 74-78

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28807359

**Abstract:****Objectives:** To determine the efficacy of physical therapy (PT) for fecal incontinence in children with pelvic floor dyssynergia (PFD).**Study Design:** Retrospective chart review of children with PFD completing >1 PT session for fecal incontinence at a quaternary children's hospital. The frequency of fecal incontinence (primary outcome), constipation-related medication use, number of bowel movements (in those with 50% decrease in fecal incontinence frequency), fair (not worsening but <50% fecal incontinence frequency decrease), and poor (more frequent fecal incontinence). Compliance with PT was determined by the percentage of attended PT appointments.**Results:** Children included met the following primary outcomes: 27 (42.2%) excellent, 24 (37.5%) good, 11 (17.1%) fair, and 2 (3.1%) poor. Factors associated with an excellent or good outcome included improved PFM functioning and good ( $\geq 70\%$  PT attendance) compliance. Children with a history of surgically corrected tethered spinal cord were more likely to have a fair outcome ( $P = .015$ ). Use of constipation-related medications decreased ( $1.9 \pm 0.7$  vs  $1.5 \pm 0.9$ ,  $P = .005$ ). Weekly bowel movement frequency increased ( $1.6 \pm 0.6$  vs  $6.4 \pm 4.8$ ,  $P < .001$ ) in those with infrequent bowel movements ( $n = 26$ ) at baseline.**Conclusions:** Pelvic floor PT is effective in the majority of children

with fecal incontinence related to PFD. Factors associated with PT efficacy include improved PFM functioning, good compliance with PT, and history of tethered cord.

**Database:** CINAHL

## STROKE

### **Consumer-Based Physical Activity Monitor as a Practical Way to Measure Walking Intensity During Inpatient Stroke Rehabilitation.**

**Author(s):** Klassen, Tara D.; Semrau, Jennifer A.; Dukelow, Sean P.; Bayley, Mark T.; Hill, Michael D.; Eng, Janice J.

**Source:** Stroke (00392499); Sep 2017; vol. 48 (no. 9); p. 2614-2617

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28784922

Available at [Stroke; a journal of cerebral circulation](#) - from Ovid (Journals @ Ovid)

**Abstract:**Background and Purpose: Identifying practical ways to accurately measure exercise intensity and dose in clinical environments is essential to advancing stroke rehabilitation. This is especially relevant in monitoring walking activity during inpatient rehabilitation where recovery is greatest. This study evaluated the accuracy of a readily available consumer-based physical activity monitor during daily inpatient stroke rehabilitation physical therapy sessions. Methods: Twenty-one individuals admitted to inpatient rehabilitation were monitored for a total of 471 one-hour physical therapy sessions which consisted of walking and nonwalking therapeutic activities. Participants wore a consumer-based physical activity monitor (Fitbit One) and the gold standard for assessing step count (StepWatch Activity Monitor) during physical therapy sessions. Linear mixed modeling was used to assess the relationship of the step count of the Fitbit to the StepWatch Activity Monitor. Device accuracy is reported as the percent error of the Fitbit compared with the StepWatch Activity Monitor. Results: A strong relationship (slope=0.99; 95% confidence interval, 0.97-1.01) was found between the number of steps captured by the Fitbit One and the StepWatch Activity Monitor. The Fitbit One had a mean error of 10.9% (5.3) for participants with walking velocities 0.8 m/s. Conclusions: This study provides preliminary evidence that the Fitbit One, when positioned on the nonparetic ankle, can accurately measure walking steps early after stroke during inpatient rehabilitation physical therapy sessions. Clinical Trial Registration: URL: <https://www.clinicaltrials.gov>. Unique identifier: NCT01915368.

**Database:** CINAHL

## REHABILITATION

### **Ambulant monitoring and web-accessible home-based exercise program during outpatient follow-up for resected lung cancer survivors: actual use and feasibility in clinical practice.**

**Author(s):** Timmerman, J.G.; Dekker-van Weering, M.G.H.; Stuiver, M.M.; Groen, W.G.; Wouters, M.W.J.M.; Tönis, T.M.; Hermens, H.J.; Vollenbroek-Hutten, M.M.R.; Tönis, T M

**Source:** Journal of Cancer Survivorship; Dec 2017; vol. 11 (no. 6); p. 720-731

**Publication Date:** Dec 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28396993

**Abstract:** Purpose: The aim of this study is to evaluate the feasibility of a telehealthcare application for operable lung cancer (OLC) patients, consisting of ambulant symptom and physical activity monitoring (S&PAM) and a web-accessible home-based exercise program (WEP), and identify possible barriers for successful adoption and implementation. Methods: A two-stage mixed methods design was used, in which 22 OLC patients and their treating healthcare professionals (HCPs) participated from pre-surgery to three (stage 1; n = 10) or six (stage 2; n = 12) months post-surgery. Actual use and acceptability (usability, usefulness, and satisfaction) were evaluated. Results: Seventeen OLC patients (age (SD): 59 (8) years; 8 female) actively used the modules. S&PAM use varied from 1 to 11 monitoring days prior to outpatient consultations. Patients used WEP most frequently during the first 5 weeks, with an average of four logins a week. Fifty-eight percent used WEP beyond 7 weeks. No adverse situations occurred, and patients felt confident using the applications. Perceived added value included active lifestyle promotion, decreased anxiety, and accessibility to specialized HCPs. Physiotherapists used WEP as intended. Contrarily, physicians scarcely used information from S&PAM. To promote future adoption, strategies should focus on high-level patient tailoring of the technology, and formalization of including the applications in the clinical workflow. Conclusions: Ambulant monitoring and web-accessible home exercise is clinically feasible for OLC patients. However, low level of adoption by referring physicians may hamper successful implementation. Implications For Cancer Survivors: Patients perceived both ambulant monitoring and web-accessible exercise as an added value to regular care and feasible to use in the period before and after lung resection.

**Database:** CINAHL

### **No Racial Difference in Rehabilitation Therapy Across All Post-Acute Care Settings in the Year Following a Stroke.**

**Author(s):** Skolarus, Lesli E.; Chunyang Feng; Burke, James F.; Feng, Chunyang

**Source:** Stroke (00392499); Dec 2017; vol. 48 (no. 12); p. 3329-3335

**Publication Date:** Dec 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 29089456

Available at [Stroke; a journal of cerebral circulation](#) - from Ovid (Journals @ Ovid)

**Abstract:** Background and Purpose: Black stroke survivors experience greater poststroke disability than whites. Differences in post-acute rehabilitation may contribute to this disparity. Therefore, we estimated racial differences in rehabilitation therapy utilization, intensity, and the number of post-acute care settings in the first year after a stroke. Methods: We used national Medicare data to study 186 168 elderly black and white patients hospitalized with a primary diagnosis of stroke in 2011. We tabulated the proportion of stroke survivors receiving physical, occupational, and speech and language therapy in each post-acute care setting (inpatient rehabilitation facility, skilled nursing facility, and home health agency), minutes of therapy, and number of transitions between settings. We then used generalized linear models to determine whether racial differences in minutes of physical therapy were influenced by demographics, comorbidities, thrombolysis, and markers of stroke severity. Results: Black stroke patients were more likely to receive each type of therapy than white stroke patients. Compared with white stroke patients, black stroke patients received more minutes of physical therapy (897.8 versus 743.4;  $P < 0.01$ ), occupational therapy (752.7 versus 648.9;  $P < 0.01$ ), and speech and language therapy (865.7 versus 658.1;  $P < 0.01$ ). There were no clinically significant differences in physical therapy minutes after adjustment. Blacks had more transitions (median, 3; interquartile range, 1-5) than whites (median, 2; interquartile range, 1-5;  $P < 0.01$ ). Conclusions: There are no clinically significant racial differences in rehabilitation therapy utilization or intensity after accounting for patient characteristics. It is unlikely that differences in

rehabilitation utilization or intensity are important contributors to racial disparities in poststroke disability.

**Database:** CINAHL

**Equimolar mixture of nitrous oxide and oxygen during post-operative physiotherapy in patients with cerebral palsy: A randomized, double-blind, placebo-controlled study.**

**Author(s):** Delafontaine, A.; Presedo, A.; Mohamed, D.; Lopes, D.; Wood, C.; Alberti, C.

**Source:** European Journal of Pain; Nov 2017; vol. 21 (no. 10); p. 1657-1667

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28726270

Available at [European journal of pain](#) - from Wiley Online Library All Journals

Available at [European journal of pain](#) - from Wiley Online Library Medicine and Nursing Collection 2018 - NHS

**Abstract:**Background: The administration of an equimolar mixture of nitrous oxide and oxygen (N<sub>2</sub>O) is recommended during painful procedures. However, the evaluation of its use during physiotherapy after surgery has not been reported, although pain may hamper physiotherapy efficiency. This study investigated whether the use of N<sub>2</sub>O improves the efficacy of post-operative physiotherapy after multilevel surgery in patients with cerebral palsy.Method: It was a randomized 1:1, double-blind, placebo-controlled study. All patients had post-operative physiotherapy starting the day after surgery. Patients received either N<sub>2</sub>O or placebo gas during the rehabilitation sessions. All patients had post-operative pain management protocol, including pain medication as needed for acute pain. The primary objective was to reach angles of knee flexion of 110° combined with hip extension of 10°, with the patient lying prone, within six or less physiotherapy sessions. Secondary evaluation criteria were the number of sessions required to reach the targeted angles, the session-related pain intensity and the analgesics consumption for managing post-operative pain.Results: Sixty-four patients were enrolled. Targeted angles were achieved more often in the N<sub>2</sub>O group (23 of 32, 72%, vs. Placebo: 13/ of 32, 41%; p = 0.01).Conclusion: The administration of N<sub>2</sub>O during post-operative physiotherapy can help to achieve more quickly an improved range of motion, and, although not significant in our study, to alleviate the need for pain medication. Further studies evaluating the administration of N<sub>2</sub>O in various settings are warranted.Significance: During this randomized placebo-controlled double-blind study, children receiving nitrous oxide and oxygen (N<sub>2</sub>O) achieved more often the targeted range of motion during physiotherapy sessions after multilevel surgery. Compared to placebo, nitrous oxide and oxygen (N<sub>2</sub>O) enabled a better management of acute pain related to physiotherapy procedures.

**Database:** CINAHL

**Educational and rehabilitation service utilization in adolescents born preterm or with a congenital heart defect and at high risk for disability.**

**Author(s):** Majnemer, Annette; Dahan-Oliel, Noemi; Rohlicek, Charles; Hatzigeorgiou, Sean; Mazer, Barbara; Maltais, Desiree B; Schmitz, Norbert

**Source:** Developmental Medicine & Child Neurology; Oct 2017; vol. 59 (no. 10); p. 1056-1063

**Publication Date:** Oct 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28815583



Available at [Developmental Medicine and Child Neurology](#) - from Wiley Online Library All Journals

**Abstract:**Aim: This historical cohort study describes the use of educational and rehabilitation services in adolescents born preterm or with a congenital heart defect (CHD).Method: Parents of 76 young people (mean age 15y 8mo [SD 1y 8mo]) with CHD and 125 born  $\leq 29$  weeks gestational age (mean age 16y [SD 2y 5mo]) completed a demographics questionnaire including educational and rehabilitation resource utilization within the previous 6 months. Rehabilitation services included occupational therapy, physical therapy, speech language pathology, psychology. Developmental (Leiter Brief IQ, Movement-ABC, Strengths and Difficulties Questionnaire) and functional (Vineland) status of the young people was assessed. Pearson  $\chi^2$  tests were used to perform simple pairwise comparisons of categorical outcomes across the two groups (CHD, preterm). Univariate logistic regression was used to examine predictors of service utilization.Results: Developmental profiles of the two groups (CHD/preterm) were similar (29.9%/30% IQ<80; 43.5%/50.0% motor difficulties; 23.7%/22.9% behavior problems). One-third received educational supports or attended segregated schools. Only 16% (preterm) and 26.7% (CHD) were receiving rehabilitation services. Services were provided predominantly in the school setting, typically weekly. Few received occupational therapy or physical therapy (1.3-7.6%) despite functional limitations. Leiter Brief IQ<70 was associated with receiving educational supports (CHD: OR 5.53, 95% CI 1.29-23.68; preterm: OR 14.63, 3.10-69.08) and rehabilitation services (CHD: OR 4.46, 1.06-18.88; preterm: OR 5.11, 1.41-18.49). Young people with motor deficits were more likely to require educational (CHD: OR 5.72, 1.99-16.42; preterm: OR 3.11, 1.43-6.77) and rehabilitation services (preterm: OR 3.97, 1.21-13.03).Interpretation: Although young people with impairments were more likely to receive educational and rehabilitation services, many may not be adequately supported, particularly by rehabilitation specialists. Rehabilitation services at this important transition phase could be beneficial in optimizing adaptive functioning in the home, school, and community.

**Database:** CINAHL

### **Effects of resistance exercise in prostate cancer patients: a meta-analysis.**

**Author(s):** Keilani, M.; Hasenoehrl, T.; Baumann, L.; Ristl, R.; Schwarz, M.; Marhold, M.; Sedghi Komandj, T.; Crevenna, R.

**Source:** Supportive Care in Cancer; Sep 2017; vol. 25 (no. 9); p. 2953-2968

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28600706

**Abstract:**Purpose: The aim of the present meta-analysis was to quantify effects of resistance exercise (RE) on physical performance and function, body composition, health-related quality of life (HRQoL), and fatigue in patients with prostate cancer.Methods: Trial data were obtained from the databases PubMed, MEDLINE, EMBASE, SCOPUS, and the Cochrane Library as of inception to 31st of December 2016. Thirty-two trials with 1199 patients were included. Results that were measured by using the same assessment method in five or more of the original studies were pooled in a meta-analysis.Results: Pooled studies showed significant improvements of muscular strength in the upper and lower body (95% CI [2.52, 7.97] kg;  $p < 0.001$  and 95% CI [10.51, 45.88] kg;  $p = 0.008$ , respectively) after RE. Furthermore, significant improvements were seen for body composition (body fat percentage 95% CI [-0.79, -0.53] %;  $p < 0.001$ ; lean body mass 95% CI [0.15, 1.84] %;  $p = 0.028$ ; trunk fat mass 95% CI [-0.73, -0.08] kg;  $p = 0.024$ ). Additionally, the improvement of the 400-m walk time was significant (95% CI [-21.55, -14.65] s;  $p < 0.001$ ). Concerning fatigue and HRQoL, there were not sufficient data for analysis.Conclusions: RE seems to be a promising approach in order to counteract loss of muscle mass, muscle strength, and physical performance in patients suffering from prostate cancer and its treatment-related side effects. RE should play part in interdisciplinary

cancer rehabilitation and care of this patient group. Nevertheless, further research should investigate RE further to determine which protocols are the most pragmatic, yet yielding best patient outcomes.

**Database:** CINAHL

**Effects of Low-Load Motor Control Exercises and a High-Load Lifting Exercise on Lumbar Multifidus Thickness: A Randomized Controlled Trial.**

**Author(s):** Berglund, Lars; Aasa, Björn; Michaelson, Peter; Aasa, Ulrika

**Source:** Spine (03622436); Aug 2017; vol. 42 (no. 15)

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 27870804

Available at [SPINE](#) - from Ovid (Journals @ Ovid)

**Abstract:** Study Design: Randomized controlled trial. Objective: The aim of this study was to compare the effects of low-load motor control (LMC) exercises and a high-load lifting (HLL) exercise, on lumbar multifidus (LM) thickness on either side of the spine and whether the effects were affected by pain intensity or change in pain intensity. Summary Of Background Data: There is evidence that patients with low back pain (LBP) may have a decreased size of the LM muscles with an asymmetry between sides in the lower back. It has also been shown that LMC training can affect this asymmetry. It is, however, not known whether a high-load exercise has the same effect. Methods: Sixty-five participants diagnosed with nociceptive mechanical LBP were included and randomized into LMC exercises or a HLL exercise, the deadlift. The LM thickness was measured using rehabilitative ultrasound imaging (RUSI), at baseline and after a 2-month training period. Results: There were no differences between interventions regarding effect on LM muscle thickness. However, the analysis showed a significant effect for asymmetry. The thickness of the LM muscle on the small side increased significantly compared with the large side in both intervention groups, without influence of pain at baseline, or change in pain intensity. Conclusion: At baseline, there was a difference in thickness of the LM muscles between sides. It seems that exercises focusing on spinal alignment may increase the thickness of the LM muscles on the small side, irrespective of exercise load. The increase in LM thickness does not appear to be mediated by either current pain intensity or the magnitude of change in pain intensity. Level Of Evidence: 2.

**Database:** CINAHL

**CRITICAL CARE**

**BALANCE/STABILITY/MOBILITY**

**Sedation and Mobilization During Venovenous Extracorporeal Membrane Oxygenation for Acute Respiratory Failure: An International Survey.**

**Author(s):** Marhong, Jonathan D.; DeBacker, Julian; Viau-Lapointe, Julien; Munshi, Laveena; Del Sorbo, Lorenzo; Burry, Lisa; Fan, Eddy; Mehta, Sangeeta

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1893-1899

**Publication Date:** Nov 2017

**Publication Type(s):** Academic Journal



**PubMedID:** 28863011

Available at [Critical care medicine](#) - from Ovid (Journals @ Ovid)

**Abstract:** Objectives: To characterize sedation, analgesia, delirium, and mobilization practices in patients supported with venovenous extracorporeal membrane oxygenation for severe acute respiratory failure. Design: Cross-sectional electronic survey administered January 2016 to March 2016. Setting: Three-hundred ninety-four extracorporeal membrane oxygenation centers registered with the Extracorporeal Life Support Organization. Subjects: Extracorporeal membrane oxygenation medical directors and program coordinators. Interventions: None. Measurements and Main Results: We analyzed responses from 209 respondents (53%), mostly from academic centers (63%); 41% respondents provide venovenous extracorporeal membrane oxygenation to adults exclusively. Following venovenous extracorporeal membrane oxygenation initiation, 97% respondents administer sedative/analgesic infusions, and the sedation target was "sedated" or "very sedated" for 59%, "calm and cooperative" for 25%, and "unarousable" for 16%. Use of daily sedation interruption and a sedation/analgesia protocol was reported by 51% and 39%, respectively. Midazolam (48%) and propofol (19%) were reported as the most frequently used sedatives; fentanyl (44%) and morphine (20%) the most frequent opioids. Use of a delirium scale was reported by 55% respondents. Physical therapy was reported by 84% respondents, with 41% initiating it within 72 hours after cannulation. Mobilization goals varied from range of motion exercises (81%) to ambulation (22%). The most frequently perceived barriers to mobilization were hemodynamic instability, hypoxemia, and dependency on venovenous extracorporeal membrane oxygenation support. Conclusions: The majority of respondents reported targeting moderate to deep sedation following cannulation, with the use of sedative and opioid infusions. There is considerable variability surrounding early physical therapy and mobilization goals for patients with acute respiratory failure supported by venovenous extracorporeal membrane oxygenation.

**Database:** CINAHL

### **Characterization of Head-Trunk Coordination Deficits After Unilateral Vestibular Hypofunction Using Wearable Sensors.**

**Author(s):** Paul, Serene S.; Dibble, Leland E.; Walther, Raymond G.; Shelton, Clough; Gurgel, Richard Klaus; Lester, Mark E.

**Source:** JAMA Otolaryngology-Head & Neck Surgery; Oct 2017; vol. 143 (no. 10); p. 1008-1014

**Publication Date:** Oct 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28859201

Available at [JAMA Otolaryngology-Head & Neck Surgery](#) - from EBSCO (MEDLINE Complete)

**Abstract:** Importance: Individuals with vestibular hypofunction acutely restrict head motion to reduce symptoms of dizziness and nausea. This restriction results in abnormal decoupling of head motion from trunk motion, but the character, magnitude, and persistence of these deficits are unclear. Objective: To use wearable inertial sensors to quantify the extent of head and trunk kinematic abnormalities in the subacute stage after resection of vestibular schwannoma (VS) and the particular areas of deficit in head-trunk motion. Design, Setting, and Participants: This cross-sectional observational study included a convenience sample of 20 healthy adults without vestibular impairment and a referred sample of 14 adults 4 to 8 weeks after resection of a unilateral VS at a university and a university hospital outpatient clinic. Data were collected from November 12, 2015, through November 17, 2016. Exposures: Functional gait activities requiring angular head movements, including items from the Functional Gait Assessment (FGA; range, 1-30, with higher scores indicating better performance), the Timed Up & Go test (TUG; measured in seconds), and a 2-minute walk test (2MWT; measured in meters). Main Outcomes and Measures: Primary outcomes included peak head

rotation amplitude (in degrees), peak head rotation velocity (in degrees per second), and percentage of head-trunk coupling. Secondary outcomes were activity and participation measures including gait speed, FGA score, TUG time, 2MWT distance, and the Dizziness Handicap Inventory score (range, 0-100, with higher scores indicating worse performance). Results: A total of 34 participants (14 men and 20 women; mean [SD] age, 39.3 [13.6] years) were included. Compared with the 20 healthy participants, the 14 individuals with vestibular hypofunction demonstrated mean (SD) reduced head turn amplitude (84.1° [15.5°] vs 113.2° [24.4°] for FGA-3), reduced head turn velocities (195.0°/s [75.9°/s] vs 358.9°/s [112.5°/s] for FGA-3), and increased head-trunk coupling (15.1% [6.5%] vs 5.9% [5.8%] for FGA-3) during gait tasks requiring angular head movements. Secondary outcomes were also worse in individuals after VS resection compared with healthy individuals, including gait speed (1.09 [0.27] m/s vs 1.47 [0.22] m/s), FGA score (20.5 [3.6] vs 30.0 [0.2]), TUG time (10.9 [1.7] s vs 7.1 [0.8] s), 2MWT (164.8 [37.6] m vs 222.6 [26.8] m), and Dizziness Handicap Inventory score (35.4 [20.7] vs 0.1 [0.4]). Conclusions and Relevance: With use of wearable sensors, deficits in head-trunk kinematics were characterized along with a spectrum of disability in individuals in the subacute stage after VS surgery compared with healthy individuals. Future research is needed to fully understand how patterns of exposure to head-on-trunk movements influence the trajectory of recovery of head-trunk coordination during community mobility.

**Database:** CINAHL

### **Effects of Virtual Reality Training using Xbox Kinect on Motor Function in Stroke Survivors: A Preliminary Study.**

**Author(s):** Park, Dae-Sung; Lee, Do-Gyun; Lee, Kyeongbong; Lee, GyuChang

**Source:** Journal of Stroke & Cerebrovascular Diseases; Oct 2017; vol. 26 (no. 10); p. 2313-2319

**Publication Date:** Oct 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28606661

**Abstract:**Background: Although the Kinect gaming system (Microsoft Corp, Redmond, WA) has been shown to be of therapeutic benefit in rehabilitation, the applicability of Kinect-based virtual reality (VR) training to improve motor function following a stroke has not been investigated. This study aimed to investigate the effects of VR training, using the Xbox Kinect-based game system, on the motor recovery of patients with chronic hemiplegic stroke. Methods: This was a randomized controlled trial. Twenty patients with hemiplegic stroke were randomly assigned to either the intervention group or the control group. Participants in the intervention group (n = 10) received 30 minutes of conventional physical therapy plus 30 minutes of VR training using Xbox Kinect-based games, and those in the control group (n = 10) received 30 minutes of conventional physical therapy only. All interventions consisted of daily sessions for a 6-week period. All measurements using Fugl-Meyer Assessment (FMA-LE), the Berg Balance Scale (BBS), the Timed Up and Go test (TUG), and the 10-meter Walk Test (10mWT) were performed at baseline and at the end of the 6 weeks. Results: The scores on the FMA-LE, BBS, TUG, and 10mWT improved significantly from baseline to post intervention in both the intervention and the control groups after training. The pre-to-post difference scores on BBS, TUG, and 10mWT for the intervention group were significantly more improved than those for the control group (P < .05). Conclusions: Evidence from the present study supports the use of additional VR training with the Xbox Kinect gaming system as an effective therapeutic approach for improving motor function during stroke rehabilitation.

**Database:** CINAHL

### **Lower-Limb Muscular Strength, Balance, and Mobility Levels in Adults Following Severe Thermal Burn Injuries.**

**Author(s):** Omar, Mohammed T. A.; El Baky, Amal M. Abd; Ebid, Anwar A.; Abd El Baky, Amal M

**Source:** Journal of Burn Care & Research; Sep 2017; vol. 38 (no. 5); p. 327-333

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28099237

**Abstract:** Severe burn injuries are associated with hypermetabolic response and increased catabolism. These lead to a vast loss of muscle mass and reduced muscle strength and function. Therefore, the aim of this study is to determine the impact of severe burn injuries on lower-limb muscular strength, balance, and mobility level in adults. Forty burned adults with burned TBSA (burned TBSA)  $\geq 40\%$  participated in this study. The peak torque and total work of quadriceps and knee flexors were calculated at  $150^\circ/\text{sec}$  using Biodex isokinetic dynamometer. Balance and mobility were tested via the Biodex balance device and the high mobility assessment tool, respectively. Twenty-three matched nonburned healthy adults were evaluated and served as a control group. Severely burned adults exhibited significantly lower peak torque and total work in their quadriceps (27.50 and 22.58%,  $P < .05$ ) and knee flexors (23.72, and 21.65%,  $P < .05$ ) relative to the nonburned adults. Burned adults had a significant decrease in stability index and balance including the dynamic limits of stability ( $P < .05$ ). The high mobility assessment tool scores were significantly lower ( $42 \pm 7.64$ ,  $P < .05$ ) when compared with control subjects ( $51 \pm 1.62$ ). Patients who had severe burns (burned TBSA  $\geq 40\%$ ) showed muscular weakness, limited balance, and mobility levels between 16 and 24 weeks after discharge from the hospital compared with matched nonburned control subjects. These results can guide therapists in creating rehabilitation programs that focus on the specific difficulties faced by burned patients.

**Database:** CINAHL

### **Compliance and safety of a novel home exercise program for patients with high-grade brain tumors, a prospective observational study.**

**Author(s):** Baima, Jennifer; Omer, Zehra; Varlotto, John; Yunus, Shakeeb; Omer, Zehra B

**Source:** Supportive Care in Cancer; Sep 2017; vol. 25 (no. 9); p. 2809-2814

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28386786

**Abstract:** Purpose: The purpose of this study is to evaluate compliance with and safety of a novel independent home exercise program for patients with high-grade brain tumors. We designed this program around the preferences and individual capabilities of this population as well as the potential barriers to exercise in cancer patients. Demographics were collected to better understand those that persisted with exercise. Methods: Subjects with high-grade brain tumor received one-time training that included watching an exercise video and live demonstration of resistance band exercises, a balance exercise, and recommendations for walking. Subjects were instructed to do the exercises every day for 1 month. Main outcome measures were percentage of subjects who exercised throughout the month, frequency of exercising, demographic factors, quality of life scores (assessed by FACT-BR), and self report of adverse events. Results: Fourteen of the 15 (93%) subjects started the exercises during the course of the month. Nine of the fifteen (60%) continued the exercises throughout the month. Three additional subjects would have continued to exercise if formal or supervised rehabilitation had been offered. Among the subjects who continued the exercises regularly, higher frequency of exercising was significantly associated with living as married ( $p = 0.033$ ), annual income  $> \$50,000$  ( $p = 0.047$ ), scores of physical well-being ( $p = 0.047$ ), and brain cancer specific well-being ( $p = 0.054$ ) subscales. Among those who exercised frequently, there was

also a trend towards increase in total FACT-BR scores ( $p = 0.059$ ). The subjects who scored higher on the social well-being subscale of the FACT-BR at baseline self-reported a higher likelihood to continue the exercises after 1 month of participation in the study ( $p = 0.018$ ). No adverse events were reported. Conclusions: Our small group of subjects with high-grade brain tumors demonstrated compliance with and safety of a novel independent strength and balance exercise program in the home setting. Higher frequency of exercising was associated with life quality parameters as well as marriage and income.

**Database:** CINAHL

## OTHER

### **Case 32-2017. A 64-Year-Old Man with Dyspnea, Wheezing, Headache, Cough, and Night Sweats.**

**Author(s):** Palamara, Kerri; Nagarur, Amulya; Fintelmann, Florian J.; Kohler, Minna J.; Cortazar, Frank B.

**Source:** New England Journal of Medicine; Oct 2017; vol. 377 (no. 16); p. 1569-1579

**Publication Date:** Oct 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 29045211

Available at [NEW ENGLAND JOURNAL OF MEDICINE](#) - from ProQuest (Hospital Premium Collection) - NHS Version

**Abstract:** The article presents a case study of 64-year-old man admitted to a hospital with dyspnea, wheezing, headache, cough, and night sweats. It notes the patient's history of fibromyalgia, sudden onset of pain, and hypoesthesia and weakness in the right leg. Magnetic resonance imaging revealed lumbosacral disk protrusion, while needle electromyography revealed evidence of L5 radiculopathy. He was recommended physical therapy by neurosurgery consultants and administered two glucocorticoid injections.

**Database:** CINAHL

### **Management of sexuality, intimacy, and menopause symptoms in patients with ovarian cancer.**

**Author(s):** Whicker, Margaret; Black, Jonathan; Altwerger, Gary; Menderes, Gulden; Feinberg, Jacqueline; Ratner, Elena

**Source:** American Journal of Obstetrics & Gynecology; Oct 2017; vol. 217 (no. 4); p. 395-403

**Publication Date:** Oct 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28411144

**Abstract:** Issues of sexuality, intimacy, and early menopause significantly impact the quality of life of patients following the diagnosis and treatment of ovarian cancer. These are undertreated problems. Successful treatment requires the provider's awareness of the problem, ability to identify it, and willingness to treat it. Unfortunately many providers do not address these issues in the pretreatment or perioperative period. Furthermore, patients do not often alert their providers to their symptoms. While systemic hormone therapy may improve many of the issues, they are not appropriate for all patients given their action on estrogen receptors. However, other nonhormonal treatments exist including selective serotonin reuptake inhibitors, antiepileptics, natural remedies, and pelvic floor physical therapy. In addition psychological care and the involvement of the partner can be helpful in managing the sexual health concerns of these patients. At the time of diagnosis or at initial

consultation, women should be informed of the potential physiologic, hormonal, and psychosocial effects of ovarian cancer on sexuality and that there is a multimodal approach to dealing with symptoms.

**Database:** CINAHL

**Do subjective memory complaints predict falls, fractures and healthcare utilization? A two-year prospective study based on a cohort of older women recruited from primary care.**

**Author(s):** Al-Sari, Usama A.; Tobias, Jon H.; Archer, Hilary; Clark, Emma M.

**Source:** International Journal of Geriatric Psychiatry; Sep 2017; vol. 32 (no. 9); p. 968-976

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 27428711

Available at [International journal of geriatric psychiatry](#) - from Wiley Online Library All Journals

Available at [International journal of geriatric psychiatry](#) - from Wiley Online Library Medicine and Nursing Collection 2018 - NHS

**Abstract:**Objective: A proportion of older individuals report subjective memory complaints (SMCs), which can predict the development of cognitive impairment and dementia. Previous studies based on secondary care suggest that SMC is also associated with other adverse health consequences, including falls, fractures and increased healthcare utilization. In this study, we aimed to establish whether similar findings are observed in the wider population. Methods: Prospective analysis of the Cohort for Skeletal Health in Bristol and Avon, a population-based cohort recruited from primary care, was carried out. Data were collected by self-completion questionnaire at baseline and 2 years. SMC was assessed at baseline. Fractures, measures of falls, mobility and healthcare utilization were assessed 2 years later. A random 5% subsample of data was validated against electronic general practitioner records. Logistic regression was used to identify independent associations, following adjustment for a range of confounders assessed at baseline. Results: Data were available on 3184 women. Three hundred and fifty participants (11.0%) reported SMC. They were older ( $73.3 \pm 4.5$  vs  $72.0 \pm 4.2$  years) and less mobile compared with those not reporting SMC. SMCs at baseline were associated with an increased risk of upper limb fractures over the following 2 years (OR 1.72, 95% CI 1.02-2.90). SMCs were also associated with an increased risk of falls (OR 1.83, 95% CI 1.41-2.38) and increased healthcare utilization (OR for hospital appointments 2.20, 95% CI 1.26-3.86). No association was observed with bone mineral density at any site. Conclusions: Subjective memory complaints are important markers of adverse health outcomes and should prompt interventions to reduce fractures such as physiotherapy-led fall reduction programmes. Copyright © 2016 John Wiley & Sons, Ltd.

**Database:** CINAHL

**Physiotherapy programme reduces fatigue in patients with advanced cancer receiving palliative care: randomized controlled trial.**

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**Source:** Supportive Care in Cancer; Sep 2017; vol. 25 (no. 9); p. 2899-2908

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28508278

**Abstract:** Purpose: Cancer-related fatigue (CRF) is a common and relevant symptom in patients with advanced cancer that significantly decreases their quality of life. The aim of this study was to evaluate the effect of a physiotherapy programme on CRF and other symptoms in patients diagnosed with advanced cancer. Methods: The study was designed as a randomized controlled trial. Sixty patients diagnosed with advanced cancer receiving palliative care were randomized into two groups: the treatment group (n = 30) and the control group (n = 30). The therapy took place three times a week for 2 weeks. The 30-min physiotherapy session included active exercises, myofascial release and proprioceptive neuromuscular facilitation (PNF) techniques. The control group did not exercise. The outcomes included Brief Fatigue Inventory (BFI), Edmonton Symptom Assessment Scale (ESAS) and satisfaction scores. Results: The exercise programme caused a significant reduction in fatigue scores (BFI) in terms of severity of fatigue and its impact on daily functioning. In the control group, no significant changes in the BFI were observed. Moreover, the physiotherapy programme improved patients' general well-being and reduced the intensity of coexisting symptoms such as pain, drowsiness, lack of appetite and depression. The analysis of satisfaction scores showed that it was also positively evaluated by patients. Conclusion: The physiotherapy programme, which included active exercises, myofascial release and PNF techniques, had beneficial effects on CRF and other symptoms in patients with advanced cancer who received palliative care. The results of the study suggest that physiotherapy is a safe and effective method of CRF management.

**Database:** CINAHL

### **A Systematic Review of the Economic Evidence for Home Support Interventions in Dementia.**

**Author(s):** Clarkson, Paul; Davies, Linda; Jasper, Rowan; Loynes, Niklas; Challis, David

**Source:** Value in Health; Sep 2017; vol. 20 (no. 8); p. 1198-1209

**Publication Date:** Sep 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28964453

**Abstract:** Background: Recent evidence signals the need for effective forms of home support to people with dementia and their carers. The cost-effectiveness evidence of different approaches to support is scant. Objectives: To appraise economic evidence on the cost-effectiveness of home support interventions for dementia to inform future evaluation. Methods: A systematic literature review of full and partial economic evaluations was performed using the British National Health Service Economic Evaluation Database supplemented by additional references. Study characteristics and findings, including incremental cost-effectiveness ratios, when available, were summarized narratively. Study quality was appraised using the National Health Service Economic Evaluation Database critical appraisal criteria and independent ratings, agreed by two reviewers. Studies were located on a permutation matrix describing their mix of incremental costs/effects to aid decision making. Results: Of the 151 articles retrieved, 14 studies met the inclusion criteria: 8 concerning support to people with dementia and 6 to carers. Five studies were incremental cost-utility analyses, seven were cost-effectiveness analyses, and two were cost consequences analyses. Five studies expressed incremental cost-effectiveness ratios as cost per quality-adjusted life-year (£6,696-£207,942 per quality-adjusted life-year). In four studies, interventions were dominant over usual care. Two interventions were more costly but more beneficial and were favorable against current acceptability thresholds. Conclusions: Occupational therapy, home-based exercise, and a carers' coping intervention emerged as cost-effective approaches for which there was better evidence. These interventions used environmental modifications, behavior management, physical activity, and emotional support as active components. More robust evidence is needed to judge the value of these and other interventions across the dementia care pathway.

**Database:** CINAHL

**Dry needling in the management of myofascial trigger points: A systematic review of randomized controlled trials.**

**Author(s):** Espejo-Antúnez, Luis; Tejeda, Jaime Fernández-Huertas; Rodríguez-Mansilla, Juan; Albornoz-Cabello, Manuel; de la Cruz-Torres, Blanca; Ribeiro, Fernando; Silva, Anabela G.

**Source:** Complementary Therapies in Medicine; Aug 2017; vol. 33 ; p. 46-57

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**PubMedID:** 28735825

**Abstract:**Objective: This systematic review of randomized controlled trials aimed to examine the effectiveness of dry needling in the treatment of myofascial trigger points and to explore the impact of specific aspects of the technique on its effectiveness.Methods: Relevant studies published between 2000 and 2015 were identified by searching PubMed, Scopus, The Cochrane Library and Physiotherapy Evidence Database. Studies identified by electronic searches were screened against a set of pre-defined inclusion criteria.Results: Fifteen studies were included in this systematic review. The main outcomes that were measured were pain, range of motion, disability, depression and quality of life. The results suggest that dry needling is effective in the short term for pain relief, increase range of motion and improve quality of life when compared to no intervention/sham/placebo. There is insufficient evidence on its effect on disability, analgesic medication intake and sleep quality.Conclusions: Despite some evidence for a positive effect in the short term, further randomized clinical trials of high methodological quality, using standardized procedures for the application of dry needling are needed.

**Database:** CINAHL

**Immediate effects of active exercise with compression therapy on lower-limb lymphedema.**

**Author(s):** Fukushima, Takuya; Tsuji, Tetsuya; Sano, Yufuko; Miyata, Chieko; Kamisako, Michiyo; Hohri, Hiroka; Yoshimura, Chikako; Asakura, Megumi; Okitsu, Taro; Muraoka, Kaori; Liu, Meigen

**Source:** Supportive Care in Cancer; Aug 2017; vol. 25 (no. 8); p. 2603-2610

**Publication Date:** Aug 2017

**Publication Type(s):** Academic Journal

**PubMedID:** 28386788

**Abstract:**Purpose: Active exercise with compression therapy (AECT) is a standard treatment for gynecological cancer-related lower-limb lymphedema (LLL) in clinical situations. However, there is insufficient evidence regarding the immediate effects of the use of AECT on LLL. The purpose of this study was to evaluate the immediate effects of AECT on LLL.Methods: Participants in this randomized controlled crossover trial comprised 23 women with LLL who completed high-load AECT, low-load AECT, and compression-only therapy (CT). AECT was performed on a bicycle ergometer with short stretch bandages. Each intervention was performed for 15 min, with successive interventions separated by a 1-week washout period. Lower-limb volume was assessed using a Perometer™ sensor (Pero-system, Wuppertal, Germany). General symptoms (pain and heaviness) and skin symptoms (pitting and stiffness) were assessed using a visual analog scale and palpation, respectively. Measurements were taken before and after each intervention. Analysis of variance using linear mixed-effect modeling was used for statistical analyses.Results: Volume decrement differed significantly between all three interventions ( $P < 0.05$ ). Lower-limb volume was significantly reduced after high-load AECT compared to that after CT. General symptoms and skin symptoms were similar across the three interventions, but severity of pre-intervention skin symptoms

correlated significantly with volume decrement after high- and low-load AECT. High-load AECT using the bicycle ergometer was more effective than CT for decreasing lower-limb volume. Conclusions: These results suggest that high-load AECT has marked effects on severe LLL.

**Database:** CINAHL