East Cheshire NHS
NHS Trust

Keeping you up-to-date with what's new

We will search the evidence to assist your research and patient care

PHYSIOTHERAPY UPDATE 6: Summer 2017

Electronic resources

Contact us for training

Welcome to this edition of *Physiotherapy Update*. The aims of this publication are:

- To bring together a range of recently-published research reports, articles and electronic resources to help Physiotherapists keep up-to-date with developments.
- To remind readers of *Physiotherapy Update* of the services available from the Staff Library Service – we can supply you with 1:1 or small group training in literature searching skills; obtain full-text articles for you; or provide services in literature searching to help you with your research tasks.
- To respond to your information needs – if you have any suggestions on topics you would find helpful to see in future editions of *Physiotherapy Update*, please let us know.

Athens

Athens passwords allow you to download the full text of articles, where the Trust has a subscription to the appropriate publisher. These are noted at the end of an abstract. You will need an Athens username and password to use the system, to register please log on to: https://openathens.nice.org.uk/

If you would like help in registering and using Athens accounts, please contact your Outreach Librarian to make an appointment:

If you work in the community - Steve Collman (Community Outreach Librarian) steve.collman@nhs.net, or phone ext. 1547

If you work at Macclesfield DGH, Knutsford or Congleton hospitals - Anne Webb (Clinical Outreach Librarian) anne.webb12@nhs.net , or phone ext. 3398.

Accessing Research Papers

The following abstracts are taken from a selection of recently published papers**.**
If the article is available electronically, this is noted at the end of the Abstract. [Press CTRL+click to open the link. You will need to be registered for Athens (see above) to be able to access the full text**.**]

If the full text is not available electronically we may be able to obtain the document through our document supply services. Steve or Anne can advise you how to obtain them, our contact details are below.

If you would like to order a copy of the full paper:
Please contact the Library & Knowledge Service, details below. There is usually a small charge for using the document supply services.

Books

The Staff Library Service has a collection of Physiotherapy titles, held at shelfmark **612.04**. If you're not already a member, join for free today. Joining takes just a few minutes. There is 24 hour access to the library and there is also a self-service machine for issue/return of books.

Library & Knowledge Service

We are located on 2nd floor, New Alderley House. We are staffed from 8.30 am – 5.00 pm Monday-Thursday and 8.30 am – 4.30 pm on Friday. There is also 24hr access available and a self -service kiosk.

Contacts

General library enquiries: ext. 1362
Staff Library e-mail for *general enquiries* requesting articles and documents:
ecn-tr.stafflibrary@nhs.net

Library website: http://www.eastcheshirenhslibrary.net

Outreach Librarians

- Steve Collman - Community Outreach Librarian: ext. 1547 e mail: steve.collman@nhs.net
- Anne Webb - Clinical Outreach Librarian: Ext 3398 email: anne.webb12@nhs.net

Please send your feedback on this update to anne.webb12@nhs.net

Contents

Articles (January 2017 – June 2017)

OSTEOARTHRITIS

Consumer Perceptions of and Willingness to Use Remotely Delivered Service Models For Exercise Management of Knee and Hip Osteoarthritis: A Cross-Sectional Survey.

Author(s): Lawford, Belinda J.; Bennell, Kim L.; Hinman, Rana S.

Source: Arthritis Care & Research; May 2017; vol. 69 (no. 5); p. 667-676

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27813360

Abstract: Objective: To investigate the perceptions of people with hip and/or knee osteoarthritis (OA) about the remote delivery of exercise therapy by a physical therapist.Methods: A survey of people age ≥45 years with a clinical diagnosis of hip and/or knee OA was conducted. The survey comprised 3 sections, including 1) demographic information, 2) statements about receiving exercise via the telephone, and 3) statements about receiving exercise via video over the internet. Data were analyzed by calculating response proportions and evaluating levels of agreement with each statement. Exploratory binomial regression analyses were performed to determine whether participant characteristics influenced perceptions of tele-rehabilitation.Results: A total of 330 people spanning metropolitan, regional, and rural Australia completed the survey. Respondents were in majority (≥50%) agreement with 13 of 17 statements, with most agreement about tele-rehabilitation saving time (telephone versus video: 78% versus 81%), being easy to use (79% versus 78%), and maintaining privacy (86% versus 82%). There was no consensus agreement with liking the lack of physical contact (telephone versus video: 20% agreement versus 22%), willingness to pay (32% versus 46%), belief that telephone-delivered exercise would be effective (45%), and belief that a physical therapist could adequately monitor OA over the telephone (42%).Conclusion: People with knee and/or hip OA hold mostly positive perceptions about tele-rehabilitation, delivered via the telephone or by video over the internet, for provision of physical therapist-prescribed exercise services. There was concern about the lack of physical contact with the therapist when using tele-rehabilitation.

Database: CINAHL

Factors Associated With Referral to Secondary Care in Patients With Osteoarthritis of the Hip or Knee After Implementation of a Stepped-Care Strategy.

Author(s): Barten, Di-Janne J. A.; Smink, Agnes; Swinkels, Ilse C. S.; Veenhof, Cindy; Schers, Henk J.; Vliet Vlieland, Thea; de Bakker, Dinny H.; Dekker, Joost; van den Ende, Cornelia H. M.

Source: Arthritis Care & Research; Feb 2017; vol. 69 (no. 2); p. 216-225

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27159735

Abstract: Objective: We introduced a stepped-care strategy (SCS) for hip and knee osteoarthritis, focusing on delivery of high-quality stepped care. In this study, we aimed to identify factors associated with various steps of the SCS.Methods: We used data from a 2-year observational prospective cohort study, including 313 patients visiting their general practitioner (GP) with a new episode of hip/knee osteoarthritis. We used logistic multilevel analyses to identify factors at the

level of the patient, the GP, and the general practice, related to treatment limited to primary care, referral to nonsurgical secondary care, or surgical procedures.Results: Patients whose treatment had been limited to primary care tended to function physically better (odds ratio [OR] 1.03). Furthermore, they less often received exercise therapy (OR 0.46), intraarticular injections (OR 0.08), and radiologic assessments (OR 0.06). Continuation of nonsurgical care after referral was more likely in employed patients (OR 2.90) and patients who had no exercise therapy (OR 0.19) or nonsteroidal antiinflammatory drugs (OR 0.35). Surgically treated patients more often received exercise therapy (OR 7.42). Referral and surgical treatment depended only to a limited extent on the GP or the general practice.Conclusion: After implementation of the SCS in primary care, the performance of exercise therapy, rather than disease severity or psychologic factors, seems to play a key role in the decision whether or not to refer for surgical or nonsurgical treatment in secondary care. To optimize patient-tailored treatment, future research should be adressed to determine the optimal moment of switching from primary to secondary care in patients with hip/knee osteoarthritis.

Database: CINAHL

LOW BACK PAIN

Effect of Radiofrequency Denervation on Pain Intensity Among Patients With Chronic Low Back Pain: The Mint Randomized Clinical Trials.

Author(s): Juch, Johan N. S.; Maas, Esther T.; Ostelo, Raymond W. J. G.; Groeneweg, J. George; Kallewaard, Jan-Willem; Koes, Bart W.; Verhagen, Arianne P.; van Dongen, Johanna M.; Huygen, Frank J. P. M.; van Tulder, Maurits W.

Source: JAMA: Journal of the American Medical Association; Jul 2017; vol. 318 (no. 1); p. 68-81

Publication Date: Jul 2017

Publication Type(s): Academic Journal

PubMedID: 28672319

Abstract: Importance: Radiofrequency denervation is a commonly used treatment for chronic low back pain, but high-quality evidence for its effectiveness is lacking.Objective: To evaluate the effectiveness of radiofrequency denervation added to a standardized exercise program for patients with chronic low back pain.Design, Setting, and Participants: Three pragmatic multicenter, nonblinded randomized clinical trials on the effectiveness of minimal interventional treatments for participants with chronic low back pain (Mint study) were conducted in 16 multidisciplinary pain clinics in the Netherlands. Eligible participants were included between January 1, 2013, and October 24, 2014, and had chronic low back pain, a positive diagnostic block at the facet joints (facet joint trial, 251 participants), sacroiliac joints (sacroiliac joint trial, 228 participants), or a combination of facet joints, sacroiliac joints, or intervertebral disks (combination trial, 202 participants) and were unresponsive to conservative care.Interventions: All participants received a 3-month standardized exercise program and psychological support if needed. Participants in the intervention group received radiofrequency denervation as well. This is usually a 1-time procedure, but the maximum number of treatments in the trial was 3.Main Outcomes and Measures: The primary outcome was pain intensity (numeric rating scale, 0-10; whereby 0 indicated no pain and 10 indicated worst pain imaginable) measured 3 months after the intervention. The prespecified minimal clinically important difference was defined as 2 points or more. Final follow-up was at 12 months, ending October 2015.Results: Among 681 participants who were randomized (mean age, 52.2 years; 421 women [61.8%], mean baseline pain intensity, 7.1), 599 (88%) completed the 3-month follow-up, and 521 (77%) completed the 12-month follow-up. The mean difference in pain intensity between the radiofrequency denervation and control groups at 3 months was -0.18 (95% CI, -0.76 to 0.40) in the facet joint trial; -0.71 (95% CI, -1.35 to -0.06) in the sacroiliac joint trial; and -0.99 (95% CI, -1.73 to -

0.25) in the combination trial.Conclusions and Relevance: In 3 randomized clinical trials of participants with chronic low back pain originating in the facet joints, sacroiliac joints, or a combination of facet joints, sacroiliac joints, or intervertebral disks, radiofrequency denervation combined with a standardized exercise program resulted in either no improvement or no clinically important improvement in chronic low back pain compared with a standardized exercise program alone. The findings do not support the use of radiofrequency denervation to treat chronic low back pain from these sources.Trial Registration: trialregister.nl Identifier: NTR3531.

Database: CINAHL

Yoga, Physical Therapy, or Education for Chronic Low Back Pain: A Randomized Noninferiority Trial.

Author(s): Saper, Robert B; Lemaster, Chelsey; Delitto, Anthony; Sherman, Karen J; Herman, Patricia M; Sadikova, Ekaterina; Stevans, Joel; Keosaian, Julia E; Cerrada, Christian J; Femia, Alexandra L; Roseen, Eric J; Gardiner, Paula; Barnett, Katherine Gergen; Faulkner, Carol; Weinberg, Janice

Source: Annals of Internal Medicine; Jun 2017; vol. 166 (no. 12)

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28631003

Available in full text at Annals of internal medicine [Ann Intern Med] NLMUID: 0372351 - from EBSCOhost

Abstract: Background: Yoga is effective for mild to moderate chronic low back pain (cLBP), but its comparative effectiveness with physical therapy (PT) is unknown. Moreover, little is known about yoga's effectiveness in underserved patients with more severe functional disability and pain.Objective: To determine whether yoga is noninferior to PT for cLBP.Design: 12-week, single-blind, 3-group randomized noninferiority trial and subsequent 40-week maintenance phase. (ClinicalTrials.gov: NCT01343927).Setting: Academic safety-net hospital and 7 affiliated community health centers.Participants: 320 predominantly low-income, racially diverse adults with nonspecific cLBP.Intervention: Participants received 12 weekly yoga classes, 15 PT visits, or an educational book and newsletters. The maintenance phase compared yoga drop-in classes versus home practice and PT booster sessions versus home practice.Measurements: Primary outcomes were back-related function, measured by the Roland Morris Disability Questionnaire (RMDQ), and pain, measured by an 11-point scale, at 12 weeks. Prespecified noninferiority margins were 1.5 (RMDQ) and 1.0 (pain). Secondary outcomes included pain medication use, global improvement, satisfaction with intervention, and health-related quality of life.Results: One-sided 95% lower confidence limits were 0.83 (RMDQ) and 0.97 (pain), demonstrating noninferiority of yoga to PT. However, yoga was not superior to education for either outcome. Yoga and PT were similar for most secondary outcomes. Yoga and PT participants were 21 and 22 percentage points less likely, respectively, than education participants to use pain medication at 12 weeks. Improvements in yoga and PT groups were maintained at 1 year with no differences between maintenance strategies. Frequency of adverse events, mostly mild self-limited joint and back pain, did not differ between the yoga and PT groups.Limitations: Participants were not blinded to treatment assignment. The PT group had disproportionate loss to follow-up.Conclusion: A manualized yoga program for nonspecific cLBP was noninferior to PT for function and pain.Primary Funding Source: National Center for Complementary and Integrative Health of the National Institutes of Health.

Database: CINAHL

Nonpharmacologic Therapies for Low Back Pain: A Systematic Review for an American College of Physicians Clinical Practice Guideline.

Author(s): Chou, Roger; Deyo, Richard; Friedly, Janna; Skelly, Andrea; Hashimoto, Robin; Weimer, Melissa; Fu, Rochelle; Dana, Tracy; Kraegel, Paul; Griffin, Jessica; Grusing, Sara; Brodt, Erika D.

Source: Annals of Internal Medicine; Apr 2017; vol. 166 (no. 7); p. 493-506

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28192793

Available in full text at Annals of internal medicine [Ann Intern Med] NLMUID: 0372351 - from EBSCOhost

Abstract: Background: A 2007 American College of Physicians guideline addressed nonpharmacologic treatment options for low back pain. New evidence is now available.Purpose: To systematically review the current evidence on nonpharmacologic therapies for acute or chronic nonradicular or radicular low back pain.Data Sources: Ovid MEDLINE (January 2008 through February 2016), Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, and reference lists.Study Selection: Randomized trials of 9 nonpharmacologic options versus sham treatment, wait list, or usual care, or of 1 nonpharmacologic option versus another.Data Extraction: One investigator abstracted data, and a second checked abstractions for accuracy; 2 investigators independently assessed study quality.Data Synthesis: The number of trials evaluating nonpharmacologic therapies ranged from 2 (tai chi) to 121 (exercise). New evidence indicates that tai chi (strength of evidence [SOE], low) and mindfulness-based stress reduction (SOE, moderate) are effective for chronic low back pain and strengthens previous findings regarding the effectiveness of yoga (SOE, moderate). Evidence continues to support the effectiveness of exercise, psychological therapies, multidisciplinary rehabilitation, spinal manipulation, massage, and acupuncture for chronic low back pain (SOE, low to moderate). Limited evidence shows that acupuncture is modestly effective for acute low back pain (SOE, low). The magnitude of pain benefits was small to moderate and generally short term; effects on function generally were smaller than effects on pain.Limitation: Qualitatively synthesized new trials with prior meta-analyses, restricted to English-language studies; heterogeneity in treatment techniques; and inability to exclude placebo effects.Conclusion: Several nonpharmacologic therapies for primarily chronic low back pain are associated with small to moderate, usually short-term effects on pain; findings include new evidence on mind-body interventions.Primary Funding Source: Agency for Healthcare Research and Quality. (PROSPERO: CRD42014014735).

Database: CINAHL

Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians.

Author(s): Qaseem, Amir; Wilt, Timothy J.; McLean, Robert M.; Forciea, Mary Ann

Source: Annals of Internal Medicine; Apr 2017; vol. 166 (no. 7); p. 514-542

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28192789

Available in full text at Annals of internal medicine [Ann Intern Med] NLMUID: 0372351 - from EBSCOhost

Abstract: Description: The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on noninvasive treatment of low back

pain.Methods: Using the ACP grading system, the committee based these recommendations on a systematic review of randomized, controlled trials and systematic reviews published through April 2015 on noninvasive pharmacologic and nonpharmacologic treatments for low back pain. Updated searches were performed through November 2016. Clinical outcomes evaluated included reduction or elimination of low back pain, improvement in back-specific and overall function, improvement in health-related quality of life, reduction in work disability and return to work, global improvement, number of back pain episodes or time between episodes, patient satisfaction, and adverse effects.Target Audience and Patient Population: The target audience for this guideline includes all clinicians, and the target patient population includes adults with acute, subacute, or chronic low back pain.Recommendation1: Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation).Recommendation2: For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation).Recommendation3: In patients with chronic low back pain who have had an inadequate response to nonpharmacologic therapy, clinicians and patients should consider pharmacologic treatment with nonsteroidal anti-inflammatory drugs as first-line therapy, or tramadol or duloxetine as second-line therapy. Clinicians should only consider opioids as an option in patients who have failed the aforementioned treatments and only if the potential benefits outweigh the risks for individual patients and after a discussion of known risks and realistic benefits with patients. (Grade: weak recommendation, moderate-quality evidence).

Database: CINAHL

Descriptive Analysis of Spinal Neuroaxial Injections, Surgical Interventions, and Physical Therapy Utilization for Degenerative Lumbar Spondylolisthesis Within Medicare Beneficiaries from 2000 to 2011.

Author(s): Sclafani, Joseph A.; Constantin, Alexandra; Pei-Shu Ho; Akuthota, Venu; Leighton Chan; Ho, Pei-Shu; Chan, Leighton

Source: Spine (03622436); Feb 2017; vol. 42 (no. 4); p. 240-246

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28207664

Available in full text at Spine - from Ovid

Abstract: Study Design: A retrospective, observational study.Objective: The aim of this study was to determine the utilization of various treatment modalities in the management of degenerative spondylolisthesis within Medicare beneficiaries.Summary Of Background Data: Degenerative lumbar spondylolisthesis is a condition often identified in symptomatic low back pain. A variety of treatment algorithms including physical therapy and interventional techniques can be used to manage clinically significant degenerative spondylolisthesis.Methods: This study utilized the 5% national sample of Medicare carrier claims from 2000 through 2011. A cohort of beneficiaries with a new International Classification of Diseases 9th edition (ICD-9) diagnosis code for degenerative lumbar spondylolisthesis was identified. Current procedural terminology codes were used to identify the

number of procedures performed each year by specialty on this cohort.Results: A total of 95,647 individuals were included in the analysis. Average age at the time of initial diagnosis was 72.8 ± 9.8 years. Within this study cohort, spondylolisthesis was more prevalent in females (69%) than males and in Caucasians (88%) than other racial demographics. Over 50% of beneficiaries underwent at least one injection, approximately one-third (37%) participated in physical therapy, one in five (21%) underwent spinal surgery, and one-third (36%) did not utilize any of these interventions. Greater than half of all procedures (124,280/216,088) occurred within 2 years of diagnosis. The ratio of focal interventions (transforaminal and facet interventions) to less selective (interlaminar) procedures was greater for the specialty of Physical Medicine and Rehabilitation than for the specialties of Anesthesiology, Interventional Radiology, Neurosurgery, and Orthopedic Surgery. The majority of physical therapy was dedicated to passive treatment modalities and range of motion exercises rather than active strengthening modalities within this cohort.Conclusion: Interventional techniques and physical therapy are frequently used treatment modalities for symptomatic degenerative spondylolisthesis. Understanding utilization of these techniques is important to determine relative clinical efficacies and to optimize future health care expenditures.Level Of Evidence: N/A.

Database: CINAHL

ARTHROPLASTY

Formal Physical Therapy After Total Hip Arthroplasty Is Not Required: A Randomized Controlled Trial.

Author(s): Austin, Matthew S.; Urbani, Brian T.; Fleischman, Andrew N.; Fernando, Navin D.; Purtill, James J.; Hozack, William J.; Parvizi, Javad; Rothman, Richard H.

Source: Journal of Bone & Joint Surgery, American Volume; Apr 2017; vol. 99 (no. 8); p. 648-655

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28419032

Abstract: Background: The value of formal physical therapy after total hip arthroplasty is unknown. With substantial changes that have occurred in surgical and anesthesia techniques, self-directed therapy may be efficacious in restoring function to patients undergoing total hip arthroplasty.Methods: We conducted a single-center, randomized trial of 120 patients undergoing primary, unilateral total hip arthroplasty who were eligible for direct home discharge. The experimental group followed a self-directed home exercise program for 10 weeks. The control group received the standard protocol for physical therapy that included in-home visits with a physical therapist for the first 2 weeks followed by formal outpatient physical therapy for 8 weeks. Functional outcomes were measured using validated instruments including the Harris hip score (HHS), the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and the Short Form-36 Health Survey (SF-36) preoperatively, at 1 month postoperatively, and at 6 to 12 months postoperatively.Results: Of 120 randomized patients, 108 were included in the final analysis. Ten patients (19%) were randomized to unsupervised home exercise and 20 patients (37%) were randomized to formal outpatient therapy crossed over between groups. There was no significant difference in any of the measured functional outcomes between patients receiving formal therapy (n = 54) and those participating in unsupervised home exercise (n = 54) at any time point (HHS, p = 0.82; WOMAC, p = 0.80; and SF-36 physical health, p = 0.90).Conclusions: This randomized trial suggests that unsupervised home exercise is both safe and efficacious for a majority of patients undergoing total hip arthroplasty, and formal physical therapy may not be required.Level Of Evidence: Therapeutic Level I. See Instructions for Authors for a complete description of levels of evidence.

Database: CINAHL

Post-Acute Rehabilitation After Total Knee Replacement: A Multicenter Randomized Clinical Trial Comparing Long-Term Outcomes.

Author(s): Fransen, Marlene; Nairn, Lillias; Bridgett, Lisa; Crosbie, Jack; March, Lyn; Parker, David; Crawford, Ross; Harmer, Alison R.

Source: Arthritis Care & Research; Feb 2017; vol. 69 (no. 2); p. 192-200

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27868384

Abstract: Objective: To evaluate the long-term benefit of providing a post-acute, outpatient group exercise program for patients following primary total knee replacement (TKR) surgery for osteoarthritis.Methods: A multicenter randomized clinical trial was conducted in 12 Australian public and private hospital centers. A total of 422 participants, ages 45-75 years, were randomly allocated prior to hospital discharge to the post-acute group exercise program or to usual care and were assessed at 6 weeks, 6 months, and 12 months after surgery. The main outcomes were operated knee pain and activity limitations at 12 months using the Western Ontario and McMaster Universities Osteoarthritis Index questionnaire. Secondary outcomes included health-related quality of life (Short Form 12 health survey), knee extension and flexion strength, stair-climb power, 50-foot walk speed, and active knee range of motion.Results: While both allocation groups achieved significant improvements in knee pain and activity limitations over the 12-month followup period, there were no significant differences in these main outcomes, or in the secondary physical performance measures, between the 2 treatment allocations. Twelve months after TKR, 69% and 72% of participants allocated to post-acute exercise and usual acute care, respectively, were considered to be treatment-responders. While population normative values for self-report measures of pain, activity limitation, and health-related quality of life were attained 12 months after TKR, marked deficits in physical performance measures remained.Conclusion: Providing access to a post-acute group exercise program did not result in greater reductions in long-term knee pain or activity limitations than usual care. Patients undergoing primary TKR retain marked physical performance deficits 12 months after surgery.

Database: CINAHL

Treatment of Massive Irreparable Rotator Cuff Tears: A Cost-effectiveness Analysis.

Author(s): Kang, Jason R; Sin, Aaron T; Cheung, Emilie V

Source: Orthopedics; Jan 2017; vol. 40 (no. 1)

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27684078

Available in full text at Orthopedics - from ProQuest

Abstract: Massive irreparable rotator cuff tears cause significant shoulder pain and dysfunction. Physical therapy (PT), arthroscopic debridement with biceps tenotomy (AD-BT), and hemiarthroplasty (HA) are treatments shown to reduce pain and improve quality of life. Reverse total shoulder arthroplasty (RTSA) is a newer surgical treatment option that may offer improved function. A cost-effectiveness analysis of these interventions has never been performed, and no head-to-head comparative effectiveness trials currently exist. A Markov decision analytic model was

used to compare RTSA, HA, AD-BT, and PT as treatments for elderly patients with massive irreparable rotator cuff tears. Probabilities for complications, perioperative death, conversion procedures, and reoperations were derived from the literature, and costs were determined by average Medicare reimbursement rates from 2011. Reverse total shoulder arthroplasty yielded the most quality-adjusted life years (QALY) with 7.69, but greater benefits came at higher costs compared with other treatments. Sensitivity analyses showed that PT was the most cost-effective intervention at a health utility of 0.75 or greater (QALY 7.35). The health utility of RTSA was 0.72 or less (QALY 7.48) or RTSA probability of no complications was 0.83 or less (QALY 7.48 at cost of $23,830). Reverse total shoulder arthroplasty yielded benefits at a cost considered good value for money compared with other treatments. Reverse total shoulder arthroplasty is the preferred and most cost-effective treatment option for elderly patients with massive irreparable rotator cuff tears. For patients seeking pain relief without functional gains, AD-BT can be considered a cost-effective and cheaper alternative. The cost-effectiveness analysis approach can help guide clinical practice as well as the policies of health care systems and insurers. [Orthopedics. 2017; 40(1):e65-e76.].

Database: CINAHL

PAEDIATRICS

Intensive upper- and lower-extremity training for children with bilateral cerebral palsy: a quasi-randomized trial.

Author(s): Bleyenheuft, Yannick; Ebner-Karestinos, Daniela; Surana, Bhavini; Paradis, Julie; Sidiropoulos, Alexis; Renders, Anne; Friel, Kathleen M; Brandao, Marina; Rameckers, Eugene; Gordon, Andrew M

Source: Developmental Medicine & Child Neurology; Jun 2017; vol. 59 (no. 6); p. 625-633

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28133725

Available in full text at Developmental Medicine and Child Neurology - from John Wiley and Sons

Abstract: Aim: An approach that simultaneously engages both the upper and lower extremities, hand-arm bimanual intensive therapy including lower extremity (HABIT-ILE), has recently demonstrated improvements in upper and lower extremities in children with unilateral cerebral palsy (CP). It is not known whether children with bilateral CP would benefit from this approach. The aim of this study was to examine the efficacy of HABIT-ILE in children with bilateral CP.Method: A quasi-randomized trial design was used, whereby 20 participants (age 6-15y, Gross Motor Function Classification System levels II-IV, Manual Ability Classification System levels I-III) were assigned to a treatment (HABIT-ILE) or a comparison group in the order in which they were enrolled. Children in the HABIT-ILE group were assessed before and after 84 hours of intervention over 13 days, as well as at 3 months' follow-up. Children in the comparison group were assessed at the same time points. Children in both groups were assessed using the Gross Motor Function Measure (GMFM-66) and ABILHAND-Kids (primary measures), and six secondary measures.Results: A group×test session interaction indicated significant improvements in the HABIT-ILE group as assessed by the GMFM-66, lower-extremity performance (6-Minute Walk Test; Pediatric Balance Scale), functional upper-extremity abilities (ABILHAND-Kids/Pediatric Evaluation of Disability Inventory), and the dexterity of the less affected upper extremity.Conclusion: HABIT-ILE is efficacious for improving both upper- and lower-extremity function in children with bilateral CP.

Database: CINAHL

Measuring communication and participation in children with speech and language disorders.

Author(s): Mccartney, Elspeth

Source: Developmental Medicine & Child Neurology; May 2017; vol. 59 (no. 5); p. 459-459

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28101882

Available in full text at Developmental Medicine and Child Neurology - from John Wiley and Sons

Abstract: The article discusses the responsive measures of language and speech disorders in children. Topics discussed include predictors and outcomes in preschoolers with developmental mobility impairment, measures the ability of children to receive and send messages through Communication Function Classification System (CFCS) and therapy outcome measures for rehabilitation professionals.

Database: CINAHL

Caregiver-directed home-based intensive bimanual training in young children with unilateral spastic cerebral palsy: a randomized trial.

Author(s): Ferre, Claudio L; Brandão, Marina; Surana, Bhavini; Dew, Ashley P; Moreau, Noelle G; Gordon, Andrew M

Source: Developmental Medicine & Child Neurology; May 2017; vol. 59 (no. 5); p. 497-504

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27864822

Available in full text at Developmental Medicine and Child Neurology - from John Wiley and Sons

Abstract: Aim: To examine the efficacy of caregiver-directed, home-based intensive bimanual training in children with unilateral spastic cerebral palsy (USCP) using a randomized control trial.Method: Twenty-four children (ages 2y 6mo-10y 1mo; 10 males, 14 females) performed home-based activities directed by a caregiver for 2 hours per day, 5 days per week, for 9 weeks (total=90h). Cohorts of children were age-matched into groups and randomized to receive home-based hand-arm bimanual intensive therapy (H-HABIT; n=12) or lower-limb functional intensive training (LIFT-control; n=12). Caregivers were trained before the intervention and supervised remotely via telerehabilitation. Dexterity and bimanual hand function were assessed using the Box and Blocks test (BBT) and the Assisting Hand Assessment (AHA) respectively. Caregiver perception of functional goals was measured using the Canadian Occupational Performance Measure (COPM).Results: H-HABIT showed greater improvement on the BBT compared to LIFT-control and no improvement on the AHA. H-HABIT demonstrated significant improvement in COPM-Performance compared to LIFT-control and both groups showed equal improvement in COPM-Satisfaction.Interpretation: H-HABIT improved dexterity and performance of functional goals, but not bimanual performance, in children with USCP compared to a control group receiving intervention of equal intensity/duration that also controlled for increased caregiver attention. Home-based models provide a valuable, family-centered approach to achieve increased treatment intensity.

Database: CINAHL

Measuring changes of manual ability with ABILHAND-Kids following intensive training for children with unilateral cerebral palsy.

Author(s): Bleyenheuft, Yannick; Gordon, Andrew M; Rameckers, Eugène; Thonnard, Jean-Louis; Arnould, Carlyne

Source: Developmental Medicine & Child Neurology; May 2017; vol. 59 (no. 5); p. 505-511

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27896811

Available in full text at Developmental Medicine and Child Neurology - from John Wiley and Sons

Abstract: Aim: ABILHAND-Kids is a parent-reported questionnaire measuring manual ability in children with cerebral palsy (CP). Its psychometric properties have been established, with the exception of responsiveness, which is examined here.Method: In this cohort study, 98 children (46 males, 52 females; range 6-19y, mean 11y, standard deviation [SD] 3.3y) with unilateral CP underwent three assessments of upper extremity function: at baseline (T1); after 80 to 90 hours of intensive training (T2); and at follow-up (T3). The responsiveness was analyzed using global, group (based on age and on Manual Ability Classification System [MACS] level), and individual approaches during two time periods (T1-T2 and T2-T3). Effect size was used to quantify magnitude of changes.Results: The global approach showed significant improvements between T1 and T2 (p0.8) and small changes in the older children (13-19y, n=46, mean change=0.71 logit, effect size >0.4). Children in MACS level II demonstrated larger changes than children in MACS level I or III.Interpretation: The ABILHAND-Kids exhibited responsiveness in detecting changes after intensive training. Therefore, this scale is potentially useful in assessing the functional status of children with unilateral CP in clinical trials.

Database: CINAHL

'Remind-to-move' treatment versus constraint-induced movement therapy for children with hemiplegic cerebral palsy: a randomized controlled trial.

Author(s): Dong, Vicky Anqin; Fong, Kenneth N K; Chen, Yun-Feng; Tseng, Stella S W; Wong, Louisa M S

Source: Developmental Medicine & Child Neurology; Feb 2017; vol. 59 (no. 2); p. 160-167

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27503605

Available in full text at Developmental Medicine and Child Neurology - from John Wiley and Sons

Abstract: Aim: To evaluate 'remind-to-move' (RTM) treatment by comparing it with constraint-induced movement therapy (CIMT) and conventional rehabilitation of the upper extremity in children with hemiplegic cerebral palsy (CP).Method: Seventy-three children (44 males, 29 females; mean age 11y 8mo, standard deviation [SD] 3y 1mo) - with 20, 38, and 15 in Manual Ability Classification System levels I, II, and III respectively - were recruited from three special schools and randomly selected for an RTM (n=25) or CIMT (n=24) programme (for 75h over 3wks) or for conventional rehabilitation (n=24). The Jebsen-Taylor Hand Function Test, the Bruininks-Oseretsky Test of Motor Proficiency (Subtest 3), the Caregiver Functional Use Survey, and arm movement duration captured by accelerometers were used at the baseline, post-test, and 1-month and 3-month follow-ups.Results: Both the RTM and CIMT treatments achieved significant gains in manual capacities and spontaneous hand use immediately after the intervention compared with conventional rehabilitation, but there were no significant differences between the two interventions.Interpretation: The RTM treatment demonstrated similar therapeutic effects with CIMT in manual dexterity and functional hand use, but both interventions were superior to

conventional rehabilitation. RTM is recommended as an alternative treatment for the hemiplegic upper extremity in children with CP.

Database: CINAHL

STROKE

Early rehabilitation after stroke.

Author(s): Bernhardt, Julie; Godecke, Erin; Johnson, Liam; Langhorne, Peter

Source: Current Opinion in Neurology; Feb 2017; vol. 30 (no. 1); p. 48-54

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27845945

Abstract: Purpose Of Review: Early rehabilitation is recommended in many guidelines, with limited evidence to guide practice. Brain neurobiology suggests that early training, at the right dose, will aid recovery. In this review, we highlight recent trials of early mobilization, aphasia, dysphagia and upper limb treatment in which intervention is commenced within 7 days of stroke and discuss future research directions.Recent Findings: Trials in this early time window are few. Although the seminal AVERT trial suggests that a cautious approach is necessary immediately (<24 h) after stroke, early mobility training and mobilization appear well tolerated, with few reasons to delay initiating some rehabilitation within the first week. The results of large clinical trials of early aphasia therapy are on the horizon, and examples of targeted upper limb treatments with better patient selection are emerging.Summary: Early rehabilitation trials are complex, particularly those that intervene across acute and rehabilitation care settings, but these trials are important if we are to optimize recovery potential in the critical window for repair. Concerted efforts to standardize 'early' recruitment, appropriately stratify participants and implement longer term follow-up is needed. Trial standards are improving. New recommendations from a recent Stroke Recovery and Rehabilitation Roundtable will help drive new research.

Database: CINAHL

REHABILITATION

Unsupervised exercise in survivors of human papillomavirus related head and neck cancer: how many can go it alone?

Author(s): Bauml, Joshua; Kim, Jiyoung; Zhang, Xiaochen; Aggarwal, Charu; Cohen, Roger; Schmitz, Kathryn; Cohen, Roger B

Source: Journal of Cancer Survivorship; Aug 2017; vol. 11 (no. 4); p. 462-468

Publication Date: Aug 2017

Publication Type(s): Academic Journal

PubMedID: 28194641

Abstract: Purpose: Patients with human papillomavirus (HPV)-related head and neck cancer (HNC) have a better prognosis relative to other types of HNC, making survivorship an emerging and critical issue. Exercise is a core component of survivorship care, but little is known about how many survivors of HPV-related HNC can safely be advised to start exercising on their own, as opposed to needing further evaluation or supervised exercise.Methods: We utilized guidelines to identify health issues that would indicate value of further evaluation prior to being safely prescribed unsupervised

exercise. We performed a retrospective chart review of 150 patients with HPV-related HNC to assess health issues 6 months after completing definitive therapy. Patients with at least one health issue were deemed appropriate to receive further evaluation prior to prescription for unsupervised exercise. We utilized logistic regression to identify clinical and demographic factors associated with the need for further evaluation, likely performed by outpatient rehabilitation clinicians.Results: In this cohort of patients, 39.3% could safely be prescribed unsupervised exercise 6 months after completing definitive therapy. On multivariable regression, older age, BMI >30, and receipt of radiation were associated with an increased likelihood for requiring further evaluation or supervised exercise.Conclusions: Over half of patients with HPV-related HNC would benefit from referral to physical therapy or an exercise professional for further evaluation to determine the most appropriate level of exercise supervision, based upon current guidelines.Implications For Cancer Survivors: Development of such referral systems will be essential to enhance survivorship outcomes for patients who have completed treatment.

Database: CINAHL

Burn Patient Acuity Demographics, Scar Contractures, and Rehabilitation Treatment Time Related to Patient Outcomes: The ACT Study.

Author(s): Richard, Reg; Santos-Lozada, Alexis R.

Source: Journal of Burn Care & Research; Jul 2017; vol. 38 (no. 4); p. 230-242

Publication Date: Jul 2017

Publication Type(s): Academic Journal

PubMedID: 28644206

Abstract: In 2008, the U.S. Department of Defense funded a rehabilitation study through the American Burn Association titled "Burn patient acuity demographics, scar contractures, and rehabilitation treatment time related to patient outcomes," commonly known at the ACT study. The ACT was a multi-institutional, prospective, observational, and quasirandomized investigation of the acute hospital course of 307 patients. The ACT specifically emphasized the capture of factors that may impact the physical outcome of patients with burn injury including burn severity, daily rehabilitation interventions such as mobility and splinting, and detailed skin grafting episodes. In particular, the effect that the amount of daily rehabilitation time patients received as it related to range of motion measured at the time of acute hospital discharge of areas affected by the burn injury was analyzed. The information contained herein is intended to give the interested reader an overview of the extent and breadth of the ACT dataset in terms of parameters available for further investigation. This information is also intended to be used as a basic reference for conduct of the ACT study in future reports.

Database: CINAHL

Shake It Off: A Randomized Pilot Study of the Effect of Whole Body Vibration on Pain in Healing Burn Wounds.

Author(s): Ray, Juliet J.; Alvarez, Angel D.; Ulbrich, Sondra L.; Lessner-Eisenberg, Sharon; Satahoo, Shevonne S.; Meizoso, Jonathan P.; Karcutskie, Charles A.; Mundra, Leela S.; Namias, Nicholas; Pizano, Louis R.; Schulman, Carl I.; Karcutskie, Charles A 4th

Source: Journal of Burn Care & Research; Jul 2017; vol. 38 (no. 4)

Publication Date: Jul 2017

Publication Type(s): Academic Journal

PubMedID: 28644208

Abstract: Whole body vibration (WBV) has been shown to improve strength in extremities with healed burn wounds. We hypothesize that WBV reduces pain during rehabilitation compared to standard therapy alone. Patients with ≥1% TBSA burn to one or more extremities from October 2014 to December 2015 were randomized to vibration (VIBE) or control. Each burned extremity was tested separately within the assigned group. Patients underwent one to three therapy sessions (S1, S2, S3) consisting of five upper and/or lower extremity exercises with or without WBV. Pain was assessed pre-, mid-, and postsession on a scale of 1 to 10. Mean pain scores at S1 to S3 were compared between groups with paired samples t-tests. An independent t-test was used to compare differences in pain scores between groups. Continuous variables were compared using a t-test or Mann-Whitney U test, and categorical variables were compared using a χ or Fisher's exact test, as appropriate. Forty-eight randomized test extremities (VIBE = 26, control = 22) were analyzed from a total of 31 subjects. There were no significant differences between groups in age, gender, overall TBSA, TBSA in the test extremity, pain medication use before therapy session, or skin grafting before therapy session. At S1, S2, and S3, there was a statistically significant decrease in mid- and postsession pain compared to presession pain in VIBE vs controls. Exposure to WBV decreased pain during and after physical therapy. This modality may be applicable to a variety of soft tissue injuries and warrants additional investigation.

Database: CINAHL

Predictors of functional outcomes in adults with traumatic spinal cord injury following inpatient rehabilitation: A systematic review.

Author(s): AlHuthaifi, Faisal; Krzak, Joseph; Hanke, Timothy; Vogel, Lawrence C.

Source: Journal of Spinal Cord Medicine; May 2017; vol. 40 (no. 3); p. 282-294

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27852160

Abstract: Context: Despite functional improvements during rehabilitation, variable functional outcomes were reported when patients with Spinal Cord Injury (SCI) return to society. Higher functioning individuals at discharge can experience a decrease in independent mobility (i.e. Motor Functional Independence Measure (mFIM) Score) by one-year follow-up. However, functional gains after discharge have also been reported and associated with recovery.Objective: To identify, categorize and rank predictors of mFIM score for patients with SCI following inpatient rehabilitation, both at the time of discharge and at one-year follow-up.Methods: Data sources included CINAHL, PubMed, ERIC, Google Scholar, and Medline for literature published from February 2000 to February 2015. Quality and risk of bias of included studies was assessed using the Risk of Bias Assessment Instrument for Prognostic Factor Studies (QUIPS). Significant predictors of mFIM score were categorized using the domains of the International Classification of Function and Disability model ICF and ranked based on how frequently they were significant predictors of mFIM score.Results: Twenty-seven predictors of mFIM score spanning the ICF domains were identified among seven studies. At discharge, variables in the Body Structure and Function domain were the most consistent predictors of mFIM score. At one-year follow-up, variables in the Activity and Participation domain were the most consistent predictors of mFIM score. Contextual factors were the least frequent predictors at both discharge and one-year follow-up.Conclusion: This systematic-review assists clinicians setting realistic goals that maximize functional independence at the time of discharge and after reintegrating to society.

Database: CINAHL

CRITICAL CARE

The Economic and Clinical Impact of Sustained Use of a Progressive Mobility Program in a Neuro-ICU.

Author(s): Hester, Jeannette M.; Guin, Peggy R.; Danek, Gale D.; Thomas, Jaime R.; Titsworth, William L.; Reed, Richard K.; Vasilopoulos, Terrie; Fahy, Brenda G.

Source: Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 1037-1044

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28328648

Available in full text at Critical Care Medicine - from Ovid

Abstract: Objective: To investigate a progressive mobility program in a neurocritical care population with the hypothesis that the benefits and outcomes of the program (e.g., decreased length of stay) would have a significant positive economic impact.Design: Retrospective analysis of economic and clinical outcome data before, immediately following, and 2 years after implementation of the Progressive Upright Mobility Protocol Plus program (UF Health Shands Hospital, Gainesville, FL) involving a series of planned movements in a sequential manner with an additional six levels of rehabilitation in the neuro-ICU at UF Health Shands Hospital.Setting: Thirty-bed neuro-ICU in an academic medical center.Patients: Adult neurologic and neurosurgical patients: 1,118 patients in the pre period, 731 patients in the post period, and 796 patients in the sustained period.Interventions: Implementation of Progressive Upright Mobility Protocol Plus.Measurements and Main Results: ICU length of stay decreased from 6.5 to 5.8 days in the immediate post period and 5.9 days in the sustained period ($F(2,2641) = 3.1$; $p = 0.045$). Hospital length of stay was reduced from 11.3 ± 14.1 days to 8.6 ± 8.8 post days and 8.8 ± 9.3 days sustained ($F(2,2641) = 13.0$; $p < 0.001$). The impact of the study intervention on ICU length of stay ($p = 0.031$) and hospital length of stay ($p < 0.001$) remained after adjustment for age, sex, diagnoses, sedation, and ventilation. Hospital-acquired infections were reduced by 50%. Average total cost per patient after adjusting for inflation was significantly reduced by 16% (post period) and 11% (sustained period) when compared with preintervention ($F(2,2641) = 3.1$; $p = 0.045$). Overall, these differences translated to an approximately $12.0 million reduction in direct costs from February 2011 through the end of 2013.Conclusions: An ongoing progressive mobility program in the neurocritical care population has clinical and financial benefits associated with its implementation and should be considered.

Database: CINAHL

Progressive Mobility Program in a Neuro-ICU: What Makes It Different?

Author(s): Zink, Elizabeth K.; Geocadin, Romergryko G.

Source: Critical Care Medicine; Jun 2017; vol. 45 (no. 6); p. 1101-1102

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28509736

Available in full text at Critical Care Medicine - from Ovid

Abstract: The article discusses research about the Progressive Upward Mobility program (PUMP plus) in a neuro-critical care unit. Topics discussed include the PUMP plus algorithm directing nursing staff to administer progressive activities toward unassisted ambulation as patients are able and

insufficiency of non-patient-specific outcomes in determining the safety and efficacy of mobility interventions in neurocritical care patients.

Database: CINAHL

BALANCE/STABILITY/MOBILITY

Management of mal de debarquement syndrome as vestibular migraines.

Author(s): Ghavami, Yaser; Haidar, Yarah M.; Ziai, Kasra N.; Moshtaghi, Omid; Bhatt, Jay; Lin, Harrison W.; Djalilian, Hamid R.

Source: Laryngoscope; Jul 2017; vol. 127 (no. 7); p. 1670-1675

Publication Date: Jul 2017

Publication Type(s): Academic Journal

PubMedID: 27730651

Available in full text at Laryngoscope, The - from John Wiley and Sons

Abstract: Objective: Mal de debarquement syndrome (MdDS) is a balance disorder that typically starts after an extended exposure to passive motion, such as a boat or plane ride. Management is typically supportive (e.g. physical therapy), and symptoms that persist beyond 6 months have been described as unlikely to remit. This study was conducted to evaluate the response of patients with MdDS to management with migraine prophylaxis, including lifestyle changes and medical therapy.Study Design: Prospective review.Setting: Ambulatory setting at a tertiary care medical center.Methods: Clinical history, detailed questionnaires, and audiograms were used to diagnose patients with MdDS. Those patients with the diagnosis of the MdDS were placed on our institutional vestibular migraine management protocol. Treatment response was assessed with a quality-of-life (QOL) survey and visual analog scale.Results: Fifteen patients were diagnosed with MdDS, with a predominance of females (73%) and a mean age of 50 ± 13 years. Eleven patients (73%) responded well to management with a vestibular migraine protocol, which included lifestyle changes, as well as pharmacotherapy with verapamil, nortriptyline, topiramate, or a combination thereof. In comparison, a retrospective control group of 17 patients demonstrated a lower rate of improvement when treated with vestibular rehabilitation and physical therapy.Conclusion: Management of MdDS as vestibular migraine can improve patients' symptoms and increase the QOL. Nearly all the patients suffering from MdDS had a personal or family history of migraine headaches or had signs or symptoms suggestive of atypical migraine.Level Of Evidence: 4 Laryngoscope, 127:1670-1675, 2017.

Database: CINAHL

The Tension Between Promoting Mobility and Preventing Falls in the Hospital.

Author(s): Growdon, Matthew E.; Shorr, Ronald I.; Inouye, Sharon K.

Source: JAMA Internal Medicine; Jun 2017; vol. 177 (no. 6); p. 759-760

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28437517

Available in full text at JAMA internal medicine [JAMA Intern Med] NLMUID: 101589534 - from EBSCOhost

Database: CINAHL

OTHER

Intermittent Cervical Traction for Treating Neck Pain: A Meta-analysis of Randomized Controlled Trials.

Author(s): Jheng-Dao Yang; Ka-Wai Tam; Tsai-Wei Huang; Shih-Wei Huang; Tsan-Hon Liou; Hung-Chou Chen; Yang, Jheng-Dao; Tam, Ka-Wai; Huang, Tsai-Wei; Huang, Shih-Wei; Liou, Tsan-Hon; Chen, Hung-Chou

Source: Spine (03622436); Jul 2017; vol. 42 (no. 13); p. 959-965

Publication Date: Jul 2017

Publication Type(s): Academic Journal

PubMedID: 27792118

Available in full text at Spine - from Ovid

Abstract: Study Design: A meta-analysis.Objective: The aim of this study was to perform a comprehensive search of current literature and conduct a meta-analysis of randomized controlled trials (RCTs) to assess the neck pain relieving effect of intermittent cervical traction (ICT).Summary Of Background Data: Neck pain is a common and disabling problem with a high prevalence in general population. It causes a considerable burden on the health care system with a substantial expenditure. ICT is a common component of physical therapy for neck pain in the outpatient clinic. However, the evidence regarding the effectiveness of ICT for neck pain is insufficient.Methods: Data were obtained from the PubMed, Cochrane Library, Embase, and Scopus databases from the database inception date to July 02, 2016. RCTs reporting the effects of ICT on neck pain, including those comparing the effects of ICT with those of a placebo treatment, were included. Two reviewers independently reviewed the studies, conducted a risk of bias assessment, and extracted data. The data were pooled in a meta-analysis by using a random-effects model.Results: The meta-analysis included seven RCTs. The results indicated that patients who received ICT for neck pain had significantly lower pain scores than those receiving placebos did immediately after treatment (standardized mean difference = -0.26, 95% confidence interval = -0.46 to -0.07). The pain scores during the follow-up period and the neck disability index scores immediately after treatment and during the follow-up period did not differ significantly.Conclusion: ICT may have a short-term neck pain-relieving effect. Some risks of bias were noted in the included studies, reducing the evidence level of this meta-analysis. Additional high-quality RCTs are required to clarify the long-term effects of ICT on neck pain.Level Of Evidence: 1.

Database: CINAHL

Restoration of reaching and grasping movements through brain-controlled muscle stimulation in a person with tetraplegia: a proof-of-concept demonstration.

Author(s): Ajiboye, A. Bolu; Willett, Francis R.; Young, Daniel R.; Memberg, William D.; Murphy, Brian A.; Miller, Jonathan P.; Walter, Benjamin L.; Sweet, Jennifer A.; Hoyen, Harry A.; Keith, Michael W.; Peckham, P. Hunter; Simeral, John D.; Donoghue, John P.; Hochberg, Leigh R.; Kirsch, Robert F.

Source: Lancet; May 2017; vol. 389 (no. 10081); p. 1821-1830

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28363483

Abstract: Background: People with chronic tetraplegia, due to high-cervical spinal cord injury, can regain limb movements through coordinated electrical stimulation of peripheral muscles and nerves, known as functional electrical stimulation (FES). Users typically command FES systems through other

preserved, but unrelated and limited in number, volitional movements (eg, facial muscle activity, head movements, shoulder shrugs). We report the findings of an individual with traumatic high-cervical spinal cord injury who coordinated reaching and grasping movements using his own paralysed arm and hand, reanimated through implanted FES, and commanded using his own cortical signals through an intracortical brain-computer interface (iBCI).Methods: We recruited a participant into the BrainGate2 clinical trial, an ongoing study that obtains safety information regarding an intracortical neural interface device, and investigates the feasibility of people with tetraplegia controlling assistive devices using their cortical signals. Surgical procedures were performed at University Hospitals Cleveland Medical Center (Cleveland, OH, USA). Study procedures and data analyses were performed at Case Western Reserve University (Cleveland, OH, USA) and the US Department of Veterans Affairs, Louis Stokes Cleveland Veterans Affairs Medical Center (Cleveland, OH, USA). The study participant was a 53-year-old man with a spinal cord injury (cervical level 4, American Spinal Injury Association Impairment Scale category A). He received two intracortical microelectrode arrays in the hand area of his motor cortex, and 4 months and 9 months later received a total of 36 implanted percutaneous electrodes in his right upper and lower arm to electrically stimulate his hand, elbow, and shoulder muscles. The participant used a motorised mobile arm support for gravitational assistance and to provide humeral abduction and adduction under cortical control. We assessed the participant's ability to cortically command his paralysed arm to perform simple single-joint arm and hand movements and functionally meaningful multi-joint movements. We compared iBCI control of his paralysed arm with that of a virtual three-dimensional arm. This study is registered with ClinicalTrials.gov, number NCT00912041.Findings: The intracortical implant occurred on Dec 1, 2014, and we are continuing to study the participant. The last session included in this report was Nov 7, 2016. The point-to-point target acquisition sessions began on Oct 8, 2015 (311 days after implant). The participant successfully cortically commanded single-joint and coordinated multi-joint arm movements for point-to-point target acquisitions (80-100% accuracy), using first a virtual arm and second his own arm animated by FES. Using his paralysed arm, the participant volitionally performed self-paced reaches to drink a mug of coffee (successfully completing 11 of 12 attempts within a single session 463 days after implant) and feed himself (717 days after implant).Interpretation: To our knowledge, this is the first report of a combined implanted FES+iBCI neuroprosthesis for restoring both reaching and grasping movements to people with chronic tetraplegia due to spinal cord injury, and represents a major advance, with a clear translational path, for clinically viable neuroprostheses for restoration of reaching and grasping after paralysis.Funding: National Institutes of Health, Department of Veterans Affairs.

Database: CINAHL

Effect of Moderate-Intensity Exercise Training on Peak Oxygen Consumption in Patients With Hypertrophic Cardiomyopathy: A Randomized Clinical Trial.

Author(s): Saberi, Sara; Bragg-Gresham, Jennifer; Hornsby, Whitney; Agarwal, Prachi P.; Attili, Anil; Concannon, Maryann; Kumar, Suwen; Herrera, Jonathan; Hel, Adam S.; Day, Sharlene M.; Wheeler, Matthew; Dries, Annika M.; Shmargad, Yael; Salisbury, Heidi; Ashley, Euan A.; Myers, Jonathan; Helms, Adam S; Herrera, Jonathan J

Source: JAMA: Journal of the American Medical Association; Apr 2017; vol. 317 (no. 13); p. 1349-1357

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28306757

Available in full text at JAMA [JAMA] NLMUID: 7501160 - from EBSCOhost

Abstract: Importance: Formulating exercise recommendations for patients with hypertrophic cardiomyopathy is challenging because of concern about triggering ventricular arrhythmias and because a clinical benefit has not been previously established in this population.Objective: To determine whether moderate-intensity exercise training improves exercise capacity in adults with hypertrophic cardiomyopathy.Design, Setting, and Participants: A randomized clinical trial involving 136 patients with hypertrophic cardiomyopathy was conducted between April 2010 and October 2015 at 2 academic medical centers in the United States (University of Michigan Health System and Stanford University Medical Center). Date of last follow-up was November 2016.Interventions: Participants were randomly assigned to 16 weeks of moderate-intensity exercise training (n = 67) or usual activity (n = 69).Main Outcomes and Measures: The primary outcome measure was change in peak oxygen consumption from baseline to 16 weeks.Results: Among the 136 randomized participants (mean age, 50.4 [SD, 13.3] years; 42% women), 113 (83%) completed the study. At 16 weeks, the change in mean peak oxygen consumption was +1.35 (95% CI, 0.50 to 2.21) mL/kg/min among participants in the exercise training group and +0.08 (95% CI, -0.62 to 0.79) mL/kg/min among participants in the usual-activity group (between-group difference, 1.27 [95% CI, 0.17 to 2.37]; P = .02). There were no occurrences of sustained ventricular arrhythmia, sudden cardiac arrest, appropriate defibrillator shock, or death in either group.Conclusions and Relevance: In this preliminary study involving patients with hypertrophic cardiomyopathy, moderate-intensity exercise compared with usual activity resulted in a statistically significant but small increase in exercise capacity at 16 weeks. Further research is needed to understand the clinical importance of this finding in patients with hypertrophic cardiomyopathy, as well as the long-term safety of exercise at moderate and higher levels of intensity.Trial Registration: clinicaltrials.gov Identifier: NCT01127061.

Database: CINAHL

Exercise Training in Patients With Chronic Heart Failure and Atrial Fibrillation.

Author(s): Luo, Nancy; Merrill, Peter; Parikh, Kishan S.; Whellan, David J.; Piña, Ileana L.; Fiuzat, Mona; Kraus, William E.; Kitzman, Dalane W.; Keteyian, Steven J.; O'Connor, Christopher M.; Mentz, Robert J.; O'Connor, Christopher M

Source: Journal of the American College of Cardiology (JACC); Apr 2017; vol. 69 (no. 13); p. 1683-1691

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28359513

Available in full text at Journal of the American College of Cardiology - from ProQuest

Abstract: Background: The safety and efficacy of aerobic exercise in heart failure (HF) patients with atrial fibrillation (AF) has not been well evaluated.Objectives: This study examined whether outcomes with exercise training in HF vary according to AF status.Methods: HF-ACTION (Heart Failure: A Controlled Trial Investigating Outcomes of Exercise Training) randomized 2,331 ambulatory HF patients with ejection fraction ≤35% to exercise training or usual care. We examined clinical characteristics and outcomes (mortality/hospitalization) by baseline AF status (past history of AF or AF on baseline electrocardiogram vs. no AF) using adjusted Cox models and explored an interaction with exercise training. We assessed post-randomization AF events diagnosed via hospitalizations for AF and reports of serious arrhythmia caused by AF.Results: Of 2,292 patients with baseline rhythm data, 382 (17%) had AF, 1,602 (70%) had sinus rhythm, and 308 (13%) had "other" rhythm. Patients with AF were older and had lower peak Vo2. Over a median follow-up of 2.6 years, AF was associated with a 24% per year higher rate of mortality/hospitalization (hazard ratio [HR]: 1.53; 95% confidence interval [CI]: 1.34 to 1.74; p 0.10). There was no interaction between AF and exercise training on measures of functional status or clinical outcomes (all p >

0.10).Conclusions: AF in patients with chronic HF was associated with older age, reduced exercise capacity at baseline, and a higher overall rate of clinical events, but not a differential response to exercise training for clinical outcomes or changes in exercise capacity. (Heart Failure: A Controlled Trial Investigating Outcomes of Exercise Training [HF-ACTION]; NCT00047437).

Database: CINAHL

Effectiveness of an Internet-Delivered Exercise and Pain-Coping Skills Training Intervention for Persons With Chronic Knee Pain: A Randomized Trial.

Author(s): Bennell, Kim L; Nelligan, Rachel; Dobson, Fiona; Rini, Christine; Keefe, Francis; Kasza, Jessica; French, Simon; Bryant, Christina; Dalwood, Andrew; Abbott, J Haxby; Hinman, Rana S

Source: Annals of Internal Medicine; Feb 2017; vol. 166 (no. 4)

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28241215

Available in full text at Annals of internal medicine [Ann Intern Med] NLMUID: 0372351 - from EBSCOhost

Abstract: Background: Effective, accessible biopsychosocial treatments are needed to manage chronic knee pain on a population level.Objective: To evaluate the effectiveness of Internet-delivered, physiotherapist-prescribed home exercise and pain-coping skills training (PCST).Design: Pragmatic parallel-group randomized, controlled trial. (Australian New Zealand Clinical Trials Registry: ACTRN12614000243617).Setting: Community (Australia).Patients: 148 persons aged 50 years or older with chronic knee pain.Intervention: The intervention was delivered via the Internet and included educational material, 7 videoconferencing (Skype [Microsoft]) sessions with a physiotherapist for home exercise, and a PCST program over 3 months. The control was Internet-based educational material.Measurements: Primary outcomes were pain during walking (11-point numerical rating scale) and physical function (Western Ontario and McMaster Universities Osteoarthritis Index) at 3 months. Secondary outcomes were knee pain, quality of life, global change (overall, pain, and functional status), arthritis self-efficacy, coping, and pain catastrophizing. Outcomes were also measured at 9 months.Results: Of participants enrolled, 139 (94%) completed primary outcome measures at 3 months and 133 (90%) completed secondary outcome measures at 9 months; multiple imputation was used for missing data. The intervention group reported significantly more improvement in pain (mean difference, 1.6 units [95% CI, 0.9 to 2.3 units]) and physical function (mean difference, 9.3 units [CI, 5.9 to 12.7 units]) than the control group at 3 months, and improvements were sustained at 9 months (mean differences, 1.1 units [CI, 0.4 to 1.8 units] and 7.0 units [CI, 3.4 to 10.5 units], respectively). Intervention participants showed significantly more improvement in most secondary outcomes than control participants. At both time points, significantly more intervention participants reported global improvements.Limitation: Participants were unblinded.Conclusion: For persons with chronic knee pain, Internet-delivered, physiotherapist-prescribed exercise and PCST provide clinically meaningful improvements in pain and function that are sustained for at least 6 months.Primary Funding Source: National Health and Medical Research Council.

Database: CINAHL

Improving Lower Extremity Functioning in Peripheral Artery Disease: Exercise, Endovascular Revascularization, or Both?

Author(s): McGrae McDermott, Mary; Kibbe, Melina R; McDermott, Mary McGrae

Source: JAMA: Journal of the American Medical Association; Feb 2017; vol. 317 (no. 7); p. 689-690

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28241363

Available in full text at JAMA [JAMA] NLMUID: 7501160 - from EBSCOhost

Abstract: The article discusses the authors' views about the potential use of exercise and endovascular revascularization to help improve lower extremity functioning in patients with peripheral artery disease (PAD) which affects close to 202 million adults worldwide. According to the article, PAD is an atherosclerotic disease of the arteries supplying the legs which results in insufficient oxygen delivery to the leg muscles. Quality of life and walking ability improvement are assessed.

Database: CINAHL

Collaborative team-based health promotion in a primary care setting: The MOVE program.

Author(s): Klein, Douglas; Kallio, Matt; Humphries, Serena; Mueen, Madiha

Source: Canadian Family Physician; Feb 2017; vol. 63 (no. 2)

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28209704

Available in full text at Canadian family physician Medecin de famille canadien [Can Fam Physician] NLMUID: 0120300 - from EBSCOhost

Available in full text at Canadian Family Physician - from Highwire Press

Available in full text at Canadian Family Physician - from National Library of Medicine

Abstract: Objective: To assess a primary care-based, physician-led physical activity program for primary care patients.Design: Initial assessment of a physical activity program for feasibility, patient satisfaction, and effectiveness.Setting: A primary care network in Edmonton, Alta.Participants: Patients from the primary care network.Intervention: The MOVE program is a primary care-based, physician-led physical activity program for primary care patients, collaboratively offered by an FP and a kinesiologist.Main Outcome Measures: Six-minute walk test and patient survey results.Results: Patients reported considerable benefits to participating in the MOVE program. Improvements in 6-minute walk test results were observed over 2 months (587 vs 653 m, P < .001).Conclusion: Being involved in innovative primary care-based health promotion activities is a way for FPs to achieve success in changing patients' behaviour.

Database: CINAHL