Rehabilitation

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Jason Ovens
Head of Library & Knowledge Services

Healthcare you can Trust
Title: Improved Physical Fitness Correlates With Improved Cognition in Multiple Sclerosis.

Citation: Archives of Physical Medicine & Rehabilitation, 01 July 2014, vol./is. 95(7)(1328-1334), 00039993
Author(s): Beier, Meghan, Bombardier, Charles H., Hartoonian, Narineh, Motl, Robert W., Kraft, George H.

Abstract: Abstract: Objective: To determine whether there is an association between improvements in objective measures of physical fitness and performance on cognitive tests in people with multiple sclerosis (MS). Design: Post hoc correlational analysis in which people demonstrating physical improvement were compared with those not demonstrating physical improvement. Setting: Individuals with MS residing in the community. Participants: Adults with clinically confirmed MS (N=88) who participated in a controlled trial of a telephone-based health promotion intervention, chose to work on exercise, and completed the pre- and postintervention assessments. Interventions: Participants were measured for strength (isokinetic dynamometer), aerobic fitness (bicycle ergometer), and cognition (Paced Auditory Serial Addition Test [PASAT], Trail Making Test [TMT]) at baseline and 12 weeks later. Change in fitness was calculated by subtracting each participant’s baseline score from the outcome score, and then transforming the difference to a z score. Individuals with a z score ≥1 on any fitness measure were placed in the physically improved group (n=25). All others were in the physically not improved group (n=57). Main Outcome Measures: TMT, PASAT. Results: After controlling for covariates (age, sex, ethnicity, education, disease activity, MS type), there was a significant group-by-time interaction, suggesting that cognitive functioning changed over time based on level of fitness. Participants in the physically improved group demonstrated improved performance on measures of executive functioning after 12 weeks of exercise. Conclusions: The results of this study lend support to the hypothesis that change in fitness is associated with improved executive functioning in people with MS.

Title: Depression in Older Residents With Stroke Living in Long-Term Care Facilities.

Citation: Journal of Nursing Research (Lippincott Williams & Wilkins), 01 June 2014, vol./is. 22/2(111-118), 16823141
Author(s): Hui-Tzu Huang, Yeu-Hui Chuang, Yi-Hua Hsueh, Pao-Chen Lin, Bih-O Lee, Ching-Huey Chen

Title: 2nd International Symposium on Gait and Balance in Multiple Sclerosis: interventions for gait and balance in MS.

Citation: Disability & Rehabilitation, 30 June 2014, vol./is. 36/13(1128-1132), 09638288
Author(s): Zackowski, Kathleen M., Cameron, Michelle, Wagner, Joanne M.

Abstract: Purpose: To provide a review of the 2nd International Symposium on Gait and Balance in Multiple Sclerosis (MS), emphasizing interventions in gait and balance for people with MS. Method: Review of current research on interventions used with people having MS and with people having other disorders that may provide novel insights into improving gait and balance and preventing falls in people with MS (pwMS). Results: Nine speakers provided evidence-based recommendations for interventions aimed at improving gait and balance dysfunction. Speaker recommendations covered the following areas: balance rehabilitation, self-management, medications, functional electrical stimulation, robotics, sensory augmentation, gait training with error feedback and fall prevention. Conclusions: The causes of gait and balance dysfunction in pwMS are multifactorial and therefore may benefit from a wide range of interventions. The symposium provides avenues for exchange of evidence and clinical experience that is critical in furthering physical rehabilitation including gait and balance dysfunction in MS.

Title: Functional recovery after moderate/severe traumatic brain injury: A role for cognitive reserve?

Citation: Neurology, 06 May 2014, vol./is. 82/18(1636-1642), 00283878
Author(s): Schneider, Eric B, Sur, Sandeepa, Raymont, Vanessa, Duckworth, Josh, Kowalski, Robert G, Efron, David T, Hui, Xuan, Selvarajah, Shalini, Hambridge, Hali L, Stevens, Robert D
Abstract: OBJECTIVE: To evaluate the hypothesis that educational attainment, a marker of cognitive reserve, is a predictor of disability-free recovery (DFR) after moderate to severe traumatic brain injury (TBI).

METHODS: Retrospective study of the TBI Model Systems Database, a prospective multicenter cohort funded by the National Institute on Disability and Rehabilitation Research. Patients were included if they were admitted for rehabilitation after moderate to severe TBI, were aged 23 years or older, and had at least 1 year of follow-up. The main outcome measure was DFR 1 year postinjury, defined as a Disability Rating Scale score of zero.

RESULTS: Of 769 patients included, 214 (27.8%) achieved DFR at 1 year. In total, 185 patients (24.1%) had <12 years of education, while 390 (50.7%) and 194 patients (25.2%) had 12 to 15 years and >=16 years of education, respectively. DFR was achieved by 18 patients (9.7%) with <12 years, 120 (30.8%) with 12 to 15 years, and 76 (39.2%) with >=16 years of education (p < 0.001). In a logistic regression model controlling for age, sex, and injury- and rehabilitation-specific factors, duration of education of >=12 years was independently associated with DFR (odds ratio 4.74, 95% confidence interval 2.70-8.32 for 12-15 years; odds ratio 7.24, 95% confidence interval 3.96-13.23 for >=16 years).

CONCLUSION: Educational attainment was a robust independent predictor of 1-year DFR even when adjusting for other prognostic factors. A dose-response relationship was noted, with longer educational exposure associated with increased odds of DFR. This suggests that cognitive reserve could be a factor driving neural adaptation during recovery from TBI.

Full Text: Available from Ovid in Neurology

Title: Team models in neurorehabilitation: Structure, function, and culture change.

Citation: NeuroRehabilitation, 01 May 2014, vol./is. 34/4(655-669), 10538135
Author(s): Karol, Robert L.

Abstract: INTRODUCTION: Neurorehabilitation requires a team effort. Over time the nature of teams has evolved from single discipline work through multi-disciplinary and inter-disciplinary teams to trans-disciplinary teams. However, there are inconsistencies in the literature and clinical practice as to the structure and function of these team models. Each model engenders advantages over its predecessor and unless the models are well understood clinicians may labor in a model that is less efficacious than the most transcendent model. OBJECTIVES: To define and examine the models of single discipline care, multi-disciplinary teams, inter-disciplinary teams, and trans-disciplinary teams and to review in depth trans-disciplinary teams as the most advanced team model. This paper will also consider professional roles and integration across disciplines as well as the crucial topics of staff selection, attendance in rounds and the nature of rounds, staff physical plant assignments, and leadership responsibilities. Leadership responsibilities that will be addressed include scope of practice and role release, peer pressure, and culture change issues. CONCLUSIONS: The trans-disciplinary model is the gold standard for teams in neurorehabilitation because they entail more integrated service delivery than do other teams. Trans-disciplinary teams also represent a more persons-centered approach. To initiate a trans-disciplinary model, team members must have excellent communication and shared decision making including persons with brain injury. Leadership must address staff selection, scope of practice and role-release. Otherwise, the model will fail due to peer pressure and institutional or program cultural variables.

Title: Clinically important improvements in motor function are achievable during inpatient rehabilitation by stroke patients with severe motor disability: A prospective observational study.

Citation: NeuroRehabilitation, 01 May 2014, vol./is. 34/4(773-779), 10538135
Author(s): Hayward, Kathryn S., Kuys, Suzanne S., Barker, Ruth N., Brauer, Sandra G.

Abstract: BACKGROUND: A good motor outcome after stroke is often equated with independence in functional performance. However, for patients with severe motor disability a good outcome is unlikely, but an important change may be achievable. OBJECTIVE: Determine if patients admitted to inpatient rehabilitation with severe motor disability can achieve clinically important improvements in motor function. METHODS: A prospective observational study of 239 patients with stroke admitted to inpatient rehabilitation in Brisbane, Australia was conducted. On admission and discharge, participants were assessed using the motor items of the Functional Independence Measure (m-FIM). The importance of
change achieved on the m-FIM was evaluated according to: 1) a statistical significant outcome; 2) achievement of a MCID based on a physician-anchored rating of change; and 3) shift in disability status e.g., severe to moderate disability. RESULTS: Patients with severe motor disability achieved a significant improvement in motor function (p < 0.001), which saw up to 83% achieve a MCID and 85% shift out of 'severe' to either moderate or mild motor disability on discharge from inpatient rehabilitation. CONCLUSION: This study demonstrates that patients admitted to inpatient rehabilitation with severe motor disability can achieve clinically important improvements in motor function on discharge from inpatient rehabilitation.

Title: Effects of Dynamic Stepping Training on Nonlocomotor Tasks in Individuals Poststroke.

Citation: Physical Therapy, 01 July 2014, vol./is. 94/7(921-933), 00319023
Author(s): Straube, Don D., Holleran, Carey L., Kinnaird, Catherine R., Leddy, Abigail L., Hennessy, Patrick W., Hornby, T. George

Abstract: Background. During the physical rehabilitation of individuals poststroke, therapists are challenged to provide sufficient amounts of task-specific practice in order to maximize outcomes of multiple functional skills within limited visits. Basic and applied studies have suggested that training of one motor task may affect performance of biomechanically separate tasks that utilize overlapping neural circuits. However, few studies have explicitly investigated the impact of training one functional task on separate, nonpracticed tasks. Objective. The purpose of this preliminary study was to investigate the potential gains in specific nonlocomotor assessments in individuals poststroke following only stepping training of variable, challenging tasks at high aerobic intensities. Methods. Individuals with locomotor deficits following subacute and chronic stroke (n=22) completed a locomotor training paradigm using a repeated-measures design. Practice of multiple stepping tasks was provided in variable environments or contexts at high aerobic intensities for ≥40 sessions over 10 weeks. The primary outcome was timed Five-Times Sit-to-Stand Test (5XSTS) performance, with secondary measures of sit-to-stand kinematics and kinetics, clinical assessment of balance, and isometric lower limb strength. Results. Participants improved their timed 5XSTS performance following stepping training, with changes in selected biomechanical measures. Statistical and clinically meaningful improvements in balance were observed, with more modest changes in paretic leg strength. Conclusions. The present data suggest that significant gains in selected nonlocomotor tasks can be achieved with high-intensity, variable stepping training. Improvements in nonpracticed tasks may minimize the need to practice multiple tasks within and across treatment sessions.

Full Text: Available from EBSCOhost in Physical Therapy
Available from ProQuest in Physical Therapy

Title: Efficacy and Task Structure of Bimanual Training Post Stroke: A Systematic Review.

Citation: Topics in Stroke Rehabilitation, 01 May 2014, vol./is. 21/3(181-196), 10749357
Author(s): Wolf, Angela, Scheiderer, Rachel, Napolitan, Nicholas, Belden, Courtney, Shaub, Lauren, Whitford, Maureen

Abstract: Background: Bimanual training has been shown to be as effective as, but not superior to, unimanual paretic upper extremity (UE) training interventions in improving paretic UE function and use post stroke. However, it is still unclear whether different training interventions or task structures within bimanual interventions may differentially affect the outcomes. Objective: The objectives of this review were to (1) systematically determine the efficacy of bimanual training in relation to the International Classification of Functioning, Disability and Health model components and (2) explore the structure of current bimanual training interventions. Method: A systematic review was conducted using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Eleven studies were accepted for review. Results: Three main types of bimanual training emerged: functional task training (FTT), bilateral training with rhythmic auditory cues (BATRAC), and robot-assisted training (RAT). Bimanual training is generally efficacious overall in improving paretic UE movement in individuals with subacute and/or chronic stroke as compared with other interventions. FTT, BATRAC, and RAT showed no significant differences compared with conventional therapy. Bimanual training may have greater proximal control benefits but fewer benefits
in terms of subjects' perceived amount and quality of use as compared with constraint-induced movement therapy. Conclusion: There were not enough data to draw any conclusions about the effects of bimanual task symmetry or commonality of goal.

Title: Inpatient Rehabilitation Outcomes of Patients With Apraxia After Stroke.

Citation: Topics in Stroke Rehabilitation, 01 May 2014, vol./is. 21/3(211-219), 10749357
Author(s): Wu, Andy J., Burgard, Emily, Radel, Jeff

Abstract: Background: Stroke-induced paresis commands much attention during rehabilitation; other stroke-related consequences receive less consideration. Apraxia is a stroke disorder that may have important implications for rehabilitation and recovery. Objective: To investigate association of apraxia with stroke rehabilitation outcomes during inpatient rehabilitation. Methods: This cohort study compared patients with and without apraxia after a first left hemispheric stroke. All study patients received standard of care. Clinical measures were the Functional Independence Measure (FIM) and the upper extremity section of the Fugl-Meyer Assessment (FMA) administered upon admission and at discharge. Length of stay was also documented. Florida Apraxia Battery subtests were used to classify patients with apraxia. Results: Fifteen patients were included in this study, 10 of whom had apraxia. Data analysis revealed that patients with apraxia exhibited improvement from admission to discharge in clinical measures; however, admission FIM score was significantly lower compared to patients without apraxia. There was no statistically significant difference between groups on FMA score, length of stay, or amount of change on clinical measures. Conclusions: This study of acute patients found those with apraxia to be significantly less independent upon admission to inpatient rehabilitation compared to patients without apraxia. Although both groups improved a similar amount during rehabilitation, patients with apraxia discharged at a level of independence comparable to patients without apraxia upon admission. Such disparity in independence is of concern, and apraxia as a factor in stroke rehabilitation and recovery deserves further attention.

Title: Hemiplegic Shoulder Pain: Associated Factors and Rehabilitation Outcomes of Hemiplegic Patients With and Without Shoulder Pain.

Citation: Topics in Stroke Rehabilitation, 01 May 2014, vol./is. 21/3(237-245), 10749357
Author(s): Karaahmet, Ozgur Zeliha, Eksioglu, Emel, Gurcay, Eda, Karsli, Pınar Bora, Tamkan, Ugur, Bal, Ajda, Cakıcı, Aytul

Abstract: Objectives: To analyze the incidence of and the factors associated with shoulder pain in people with hemiplegia and to understand the effect of rehabilitation programs on the parameters of motor function and activity limitations in patients with and without hemiplegic shoulder pain. Methods: Patients in the initial 6-month period after stroke who were hospitalized in the physical medicine and rehabilitation clinic were included in the study. Patients were considered early rehabilitation entrants if they were admitted in the first 0 to 30 days after a stroke and late rehabilitation entrants if they were admitted 30 to 120 days after a stroke. Demographic and clinical features, complications, and medical histories of the patients were recorded. Upper extremity Fugl-Meyer Motor Assessment (FMA), Frenchay Arm Test (FAT), and Functional Independence Measure (FIM) were applied to the patients on admission, at discharge, and after 1 month of follow-up. Results: Twenty-one (38%) patients did not have shoulder pain, and 34 (62%) patients had decreased shoulder pain. Immobilization, duration of disease, and late rehabilitation were shown to be effective treatments for shoulder pain. The major risk factors were disease duration and poor initial motor function. In both groups, the FMA, FAT, and FIM scores showed significant changes. This improvement did not differ between the 2 groups. Conclusion: Duration of disease and low motor functional capacities have the most important impact on shoulder pain. In patients with and without shoulder pain, a systematic rehabilitation program is beneficial with respect to motor function and daily living activities.

Title: The effects of motivating interventions on rehabilitation outcomes in children and youth with acquired brain injuries: A systematic review.

Citation: Brain Injury, 01 July 2014, vol./is. 28/8(1022-1035), 02699052
Author(s): Tatla, Sandy K., Sauve, Karen, Jarus, Tal, Virji-Babul, Naznin, Holsti, Liisa
**Abstract:** Primary objective: To systematically review the evidence of the effects of motivating rehabilitation interventions on outcomes in children with acquired brain injury (ABI). Methods: A literature search of six databases was conducted to identify intervention studies published until July 2013. The American Academy for Cerebral Palsy and Developmental Medicine (AACPDM) systematic review methodology was used as a framework. Two reviewers independently extracted data and assessed level of evidence and quality of studies. Results: Of 891 records initially retrieved, 166 were screened by abstract and 31 by full text; 10 studies comprised of five randomized controlled trials, two case series and three single subject research design studies met the inclusion criteria. Studies fell into three intervention categories: (1) token economy based interventions; (2) virtual reality (VR); and (3) memory and attention interventions. Conclusions: A paucity of evidence has examined the effects of rehabilitation interventions with a motivational component. Token economies can significantly enhance memory and response inhibition performance in children with ABI. VR systems are motivating, yet findings are limited by the lack of use and availability of psychometrically evaluated measures of motivation. Findings point to the need for further research to evaluate the effects of motivation-based interventions.

**Title:** Systems analysis of community and health services for acquired brain injury in Ontario, Canada.

**Citation:** Brain Injury, 01 July 2014, vol./is. 28/8(1042-1051), 02699052

**Author(s):** Munce, Sarah E. P., Laan, Rika Vander, Levy, Charissa, Parsons, Daria, Jaglal, Susan B.

**Abstract:** Primary objective: To conduct a systems analysis on community and health services for individuals with acquired brain injury (ABI) in the province of Ontario, Canada. Research design: This study employed a triangulation design. This design is used when there is a need to validate quantitative results with qualitative data, as is the case in the present study. Methods and procedures: Forty-two healthcare professionals and/or healthcare administrators from organizations across the province and across the continuum of care were surveyed. A 1-day focus group was also held to validate the study findings. Main outcomes and results: The main results of this study revealed: (1) a lack of services for children/adolescents; (2) service gaps for individuals with co-existing mental health conditions; (3) a lack of services related to employment; (4) changes in case mix, in terms of more individuals with co-morbid medical and mental health conditions (with many of the organizations reporting medical instability and severe behavioural disorders as exclusion criteria); and (5) a need for more organizations to track patient outcomes for evaluation and/or accountability purposes. Conclusions: Findings from this study will lead to improvement of current services but also improved planning of future services for individuals with ABI.

**Title:** Relationship between employment status and sexual functioning after traumatic brain injury.

**Citation:** Brain Injury, 01 July 2014, vol./is. 28/8(1063-1069), 02699052

**Author(s):** Bellamkonda, Erica, Zollman, Felise

**Abstract:** Objective: To determine if correlations exist between employment status and sexual functioning in persons with traumatic brain injury (TBI). Design: Descriptive cross-sectional. Setting: Community. Participants: One hundred and forty-six English-speaking, community dwelling adults, without other neurological or psychiatric disorder that could impact outcome and (1) enrolled in TBI Model Systems sexuality study database or (2) admitted to Rehabilitation Institute of Chicago with primary diagnosis of TBI between 2004-2006. Main outcome measures: Employment status, annual income, Derogatis Interview for Sexual Functioning Self Report (DISF-SR) sum and sub-scale scores, Global Sexual Satisfaction Index (GSSI). Results: No significant difference was found in GSSI scores between employed, unemployed or students/volunteers ( \( p = 0.20 \)); however, lower income marginally correlated with lower GSSI scores ( \( p = 0.09 \)). Marginally significant lower DISF-SR Sexual Cognition sub-group ( \( p = 0.09 \)) scores were found in unemployed vs. employed. Lower annual income also correlated with lower DISF-SR sum scores ( \( p = 0.06 \)), Sexual cognition/fantasy ( \( p = 0.07 \)), Orgasm/ejaculation ( \( p = 0.003 \)) and Sexual drive and relationship ( \( p = 0.01 \)) scores. Conclusions: Lower quality sexual functioning and satisfaction was present in persons with TBI and concomitant unemployment or lower annual income. Efforts are needed to increase awareness amongst the TBI population and rehabilitation professionals of the potential impact of unemployment or financial stress has on sexual functioning and satisfaction.
Title: Individual and group treatment for patients with acquired brain injury in comprehensive rehabilitation.

Citation: Brain Injury, 01 July 2014, vol./is. 28/8(1102-1108), 02699052

Author(s): Vestri, Alec, Peruch, Francesca, Marchi, Silvia, Frare, Mara, Guerra, Paola, Pizzighello, Silvia, Meneghetti, Silvia, Nutbrown, Alison, Martinuzzi, Andrea

Abstract: Primary objective: The aim of this study was to investigate the hypothesis that group rehabilitation is more effective than individual treatments and provides an improvement in clinical outcomes similar to that achieved by individual treatments alone. Research design: Two groups of patients were placed in different rehabilitation settings treated using the same rehabilitation approach. One received only individual treatments and the second group received a combination of both individual and group treatments. The independent variables were measured both pre- and post-treatment and compared between the two groups. Methods and procedures: Seventy-four patients treated with a comprehensive rehabilitation approach were divided into two groups: (a) individual treatment only and, (b) combined treatments (both individual and group). The outcome scales were LCF (Rancho Los Amigos Level of Cognitive Functioning), DRS (Disability Rating Scale) and FIM™ (Functional Independence Measure). Results: The whole sample had obtained statistically significant improvements in all of the outcome scales: LCF ($\chi^2 = 45.26; p < 0.001$), DRS ($z = -3.92; p < 0.001$) and FIM ($z = -4.9; p < 0.001$). The comparison between groups did not reveal any pre-treatment difference. Analysis of post-treatment, however, showed a greater improvement in the FIM scale for those in combined individual and group treatment ($z = -0.2544, p = 0.01$). Conclusions: Group rehabilitation integrated with individual treatments is more effective than individual treatments alone in improving independence measured by the FIM™ scale. Both groups had obtained statistically significant clinical improvements, the improvement in the FIM™ scale was significantly better in the combined treatment group.

Title: Reliability of the timed 10-metre walk test during inpatient rehabilitation in ambulatory adults with traumatic brain injury.

Citation: Brain Injury, 01 July 2014, vol./is. 28/8(1115-1120), 02699052

Author(s): Hirsch, Mark A., Williams, Kathryn, Norton, H. James, Hammond, Flora

Abstract: Objective: To determine the test-re-test reliability of the timed 10-metre walk test (10MWT) among adults with traumatic brain injury (TBI) enrolled in inpatient rehabilitation. Design: Prospective reliability study using a correlational design. Setting: Inpatient rehabilitation unit of a rehabilitation hospital. Participants: Twenty-three consecutive adults with acute TBI, mean age = 35.87, SD = 14.2 years (range = 18-64 years). This study tested 22 males and one female, who were 15.6 (SD = 9.1) days in inpatient rehabilitation at time of gait testing. Method: Repeated, timed 10-metre gait test within a 1-hour testing period with six trials at self-selected pace (SSP) and six trials at fastest pace (FP), recorded to the nearest 1/10 second with a hand-held stopwatch. Result: Gait speed measurements for SSP and FP were shown to have excellent test-re-test reliability (Intra Class Correlation coefficient = 0.964 and 0.961, respectively). Conclusions: These results add to the literature that the timed 10MWT is a reliable measure of gait velocity in adults with acute TBI for both FP and SSP.

Title: Immediate effects of two attention strategies on trunk control on patients after stroke. A randomized controlled pilot trial.

Citation: Clinical Rehabilitation, 01 July 2014, vol./is. 28/7(632-636), 02692155

Author(s): Mückel, Simone, Mehrholz, Jan

Full Text: Available from ProQuest in Clinical Rehabilitation
Title: Effect on arm function and cost of robot-assisted group therapy in subacute patients with stroke and a moderately to severely affected arm: a randomized controlled trial.

Citation: Clinical Rehabilitation, 01 July 2014, vol./is. 28/7(637-647), 02692155
Author(s): Hesse, Stefan, Heß, Anke, Werner C, Cordula, Kabbert, Nadine, Buschfort, Rüdiger

Full Text: Available from ProQuest in Clinical Rehabilitation

Title: Upper limb post-stroke sensory impairments: the survivor’s experience.

Citation: Disability & Rehabilitation, 15 June 2014, vol./is. 36/12(993-1000), 09638288
Author(s): Doyle, Susan D., Bennett, Sally, Dudgeon, Brian

Abstract: Purpose: This study described stroke survivors' experiences of upper limb post-stroke sensory impairment (ULPSSI) and its rehabilitation. Methods: A qualitative descriptive study of 15 stroke survivors with ULPSSI using semi-structured interviews. A focus group of eight survivors reviewed thematic outcomes. Analysis was completed by three authors. Results: Three themes emerged: (1) What happened to my hand?: A description of the significant impact of sensory impairments on survivors roles and participation; (2) I was only just getting started: Survivors felt sensory impairments and the upper limb were ignored in rehabilitation and described being left on their own to devise their own rehabilitation; and (3) If I work hard then maybe someday: Survivors felt sensory impairments recovered slowly and was aided by working towards recovery and maintaining hope. Conclusions: Sensory impairments are significant for survivors and are deserving of greater clinical and research attention. In particular, assessments and interventions need further development and testing. This study's findings revealed the need to ascertain individual survivors' preference for involvement in decision making related to their rehabilitation planning. It also found survivors view recovery as extending well beyond current rehabilitation frameworks, necessitating further description of recovery and re-evaluation of service delivery to address survivors' needs.

Title: Sensitivity and responsiveness of the health-related quality of life in stroke patients-40 (HRQOLISP-40) scale.

Citation: Disability & Rehabilitation, 15 June 2014, vol./is. 36/12(1014-1019), 09638288
Author(s): Vincent-Onabajo, Grace O., Owolabi, Mayowa O., Hamzat, Talhatu K.

Abstract: Purpose: To investigate the sensitivity and responsiveness of the Health-Related Quality of Life in Stroke Patients-40 (HRQOLISP-40) scale in evaluating stroke patients from onset to 12 months. Methods: Fifty-five patients with first-incidence stroke were followed-up for 12 months. The HRQOLISP-40 scale was used to assess health-related quality of life (HRQOL) while stroke severity was assessed with the Stroke Levity Scale. Sensitivity to change was assessed by analyzing changes in the HRQOLISP-40 scores between pairs of months with paired samples t-test. Standardized effect size (SES) and standardized response mean (SRM) were used to express responsiveness. Results: Overall HRQOL and domains in the physical sphere of the HRQOLISP-40 were sensitive to change at different time intervals in the first 12 months post-stroke. Marked responsiveness (SES and SRM >0.7) was demonstrated by the overall scale, and the physical, psycho-emotional and cognitive domains at varying time intervals. For instance, SRM was greater than 0.7 between 1 and 6, 3 and 12, 1 and 9, and 1 and 12 months for both the physical and psycho-emotional domains. Conclusion: The HRQOLISP-40 is a sensitive and responsive stroke-specific quality of life measure that can be used to evaluate the outcome of stroke rehabilitation.

Title: Survival, momentum, and things that make me 'me': patients' perceptions of goal setting after stroke.

Citation: Disability & Rehabilitation, 15 June 2014, vol./is. 36/12(1020-1026), 09638288
Author(s): Brown, Melanie, Levack, William, McPherson, Kathryn M., Dean, Sarah G., Reed, Kirk, Weatherall, Mark, Taylor, William J.

Abstract: Purpose: Goal setting and patient-centredness are considered fundamental concepts in rehabilitation. However, the best way to involve patients in setting goals remains unclear. The purpose of
this study was to explore patient experiences of goal setting in post-acute stroke rehabilitation to further understanding of its application to practice. Method: Thematic analysis was used to analyse interview transcripts from 10 stroke survivors, recruited from 4 rehabilitation units as part of a pilot study investigating the effects of a structured means of eliciting patient-centred goals in post-acute stroke rehabilitation. Results: Three key themes emerged: (1) ‘A Day by Day Momentum’, comprising subordinate themes of ‘Unpredictability’ and ‘Natural Progression’ in which daily progress forwards was seen as an integral part of rehabilitation; (2) ‘Battle versus Alliance’ in which issues of struggle versus support influenced participants' advancement; and (3) ‘The Special Things’, consisting of subordinate themes of ‘What Makes Me 'Me'’ and ‘Symbolic Achievements' concerning issues defining individuals and their rehabilitation experiences. Conclusions: Patients' discourse around goal setting can differ from the discourse conventionally used by clinicians when describing 'best practice' in rehabilitation goal setting. Understanding patients' non-conventional views of goals may assist in supporting and motivating them, thus providing drive for their rehabilitation.

Title: Measurement of the Visual Attention Patterns of People with Aphasia: A Preliminary Investigation of Two Types of Human Engagement in Photographic Images.

Citation: AAC: Augmentative & Alternative Communication, 01 June 2014, vol./is. 30/2(120-129), 07434618
Author(s): Thiessen, Amber, Beukelman, David, Ullman, Cara, Longenecker, Maria

Abstract: The focus of this investigation was to examine the visual attention patterns of adults with aphasia on task-engaged contextualized images in which a human figure was engaged with the context of the image and camera-engaged contextualized images in which a human figure was looking forward toward the camera. Analysis revealed that adults with aphasia tend to fixate rapidly and frequently on human figures in contextualized images regardless of the type of engagement in the image. In addition, they responded to engagement cues when viewing task-engaged contextualized images by fixating more frequently and more rapidly on the object area of interest for these images than for camera-engaged contextualized images.

Title: Factors influencing post-stroke rehabilitation participation after discharge from hospital.

Citation: International Journal of Therapy & Rehabilitation, 01 June 2014, vol./is. 21/6(260-267), 17411645
Author(s): Wei Koh, Barr, Christopher, George, Stacey

Abstract: Aim: To explore what the obstacles are that deter patients from continuing stroke rehabilitation after discharge from hospital in Singapore. Methods: In this qualitative study, individual semi-structured telephone interviews were undertaken and analysed using inductive thematic analysis. Thirty one stroke patients, who had been discharged from the hospital after inpatient rehabilitation (mean age=66.46 years, mean duration postdischarge= 95.82 days), were interviewed. Results: Five themes were identified as obstacles to post-discharge stroke rehabilitation including: the means to access rehabilitative services; lapse in discharge coordination; family members' views and actions; discrepancies in expectation; and the perception that rehabilitation is simple. Participants indicated a need for timely and appropriate information, delivered according to their individualised needs. Conclusion: Study findings revealed that the absence of a smooth transition through the continuum of stroke care and not having a common understanding of rehabilitation accounts for the lack of adherence to therapy recommendations. The results suggest that clinicians need to be more aware of their role in providing well-coordinated information about therapy. The study also highlighted the need to review the goal-setting processes that guide the course of rehabilitation. Goals should be more patient-centred to reduce the discrepancies in expectations of rehabilitation. There needs to be a greater involvement of carers in discharge planning to minimise the dissatisfaction in care arrangements and information delivery.

Full Text: Available from EBSCOhost in International Journal of Therapy & Rehabilitation

Title: Assessment of occupational performance problems due to cognitive deficits in stroke rehabilitation: A survey... including commentary by Morgan MFG.

Citation: International Journal of Therapy & Rehabilitation, 01 June 2014, vol./is. 21/6(280-288), 17411645
Author(s): Pilegaard, Marc, Pilegaard, Britt, Birn, Ida, Kristensen, Hanne

Abstract: Aim: This study aimed to survey the choices occupational therapists (OTs) make when selecting assessment tools and methods for assessing patients’ occupational performance problems due to cognitive deficits during the immediate post-acute phase of stroke (approximately 1–7 days after). This study also aimed to examine the extent to which OTs use standardised, occupation-based assessments and whether factors such as education level, the time needed to use assessment tools, and the impact of local departmental guidelines, affect the selection of standardised, occupation-based assessments. Methods: A cross-sectional survey, completed via post with responses from 150 Danish occupational therapists was conducted. Results: The survey participants used 13 different assessment tools and methods to assess patients with stroke for occupational performance problems due to cognitive deficits. Only 9% of the OTs were using standardised, occupation-based assessments. Educational level, the time needed to use the assessment tools and the impact of local departmental guidelines were not significantly associated with selection of standardised, occupation-based assessments. Conclusion: The majority of the OTs in this study did not use standardised, occupation-based assessments. These findings indicate a need for further investigation into the changes necessary to the practitioners’ knowledge, skills, or priorities in the use of standardised, occupation-based assessments in clinical practice.

Full Text: Available from EBSCOhost in International Journal of Therapy & Rehabilitation

Title: Rebuilding identity after brain injury: Standard cognitive and music-evoked autobiographical memory training... including commentary by Shinoda J and Baird A.

Citation: International Journal of Therapy & Rehabilitation, 01 June 2014, vol./is. 21/6(289-295), 17411645
Author(s): Gurr, Birgit, Foxhall, Mia

Abstract: Background: This paper presents a report involving a male patient who had experienced a subarachnoid haemorrhage. He presented with profound anterograde and retrograde amnesia, which caused him to be severely confused about his social contacts and his environment. Aim: To describe the complexity of amnesia and identity loss and examine how the combination of cognitive and music-evoked autobiographical training affected a person with anterograde and retrograde amnesia following subarachnoid haemorrhages (acquired brain injury [ABI]). Method: The 47-year-old male patient, who had worked as a DJ for some parts of his life previously had a good memory of musical events and facts about musical artists. This patient received an applied cognitive training programme (part I), which was based on spaced retrieval and errorless learning methods. The patient also received therapy involving the administration of music-evoked emotional responses (part II). The cognitive training programme consisted of 13 hourly sessions spread over four weeks. The music-based intervention included 5 hourly sessions, which took part place over two weeks. Results: Part I optimised the patient’s name recall and local orientation. The resulting recovery of day-to-day memory and the awareness of the dependence on learning strategies led to the patient having a realisation of his severe loss of autobiographical memory. The patient became frustrated, angry and depressed and was at risk of disengaging from most areas of his neuro-rehabilitation programme. Part II enabled the patient to link the music or the artist with autobiographical events and to elicit emotional responses to such events. These were stringed into an autobiographical narrative with the result that the patient gained insight into the person he used to be and connected with past emotional experiences. The regained autobiographical memories were maintained beyond the training context. Conclusion: The patient’s mood and motivation to continue his neuro-rehabilitation programme improved. This enabled him to make further progress regarding his functional independence.

Full Text: Available from EBSCOhost in International Journal of Therapy & Rehabilitation

Title: Effects of Sling Exercise Therapy on Trunk Muscle Activation and Balance in Chronic Hemiplegic Patients.

Citation: Journal of Physical Therapy Science, 01 May 2014, vol./is. 26/5(655-659), 09155287
Author(s): Jin Soo Lee, Hong Gyun Lee
Abstract: [Purpose] Weakening of trunk muscles in stroke patients hinders functional ability, safety and balance. To confirm whether strengthening trunk muscles could facilitate rehabilitation of stroke patients, we investigated the effectiveness of sling exercise therapy (SET) using closed kinetic chain exercises to activate trunk muscles and improve balance in stroke patients. [Subjects and Methods] Twenty stroke patients with chronic hemiplegia were equally divided into 2 groups, a SET group and a control group that performed regular exercises on a mat with the assistance of a table. Patients in both groups exercised for 30 min, three times per week for 4 weeks. Trunk muscle activity was measured using surface electromyography, whereas balance was measured using the Berg Balance Scale, Frailty and Injuries Cooperative Studies of Intervention Technique, Timed Up & Go test, and BioRescue before and after the 4-week experimental period. [Results] Trunk muscle activity and balance before and after intervention in both groups were significantly different. However, no significant differences were observed between the 2 groups. [Conclusion] Although SET was not more effective than regular exercise, significant improvement was observed before and after SET. Therefore, SET can be considered effective in strengthening trunk muscles in stroke patients with chronic hemiplegia.

Title: Clinical Reasoning of Physical Therapists regarding In-hospital Walking Independence of Patients with Hemiplegia.

Citation: Journal of Physical Therapy Science, 01 May 2014, vol./is. 26/5(771-775), 09155287
Author(s): Junpei Takahashi, Akiyoshi Takami, Saichi Wakayama

Abstract: [Purpose] Physical therapists must often determine whether hemiparetic patients can walk independently. However, there are no criteria, so decisions are often left to individual physical therapists. The purpose of this study was to explore how physical therapists determine whether a patient with hemiplegia can walk independently in a ward. [Methods] The subjects were 15 physical therapists with experience of stroke patients’ rehabilitation. We interviewed them using semi-structured interviews related to the criteria of the states of walking in the ward of hemiparetic patients. The interviews were transcribed in full, and the texts were analyzed by coding and grouping. [Results] From the results of the interviews, PTs determined patients’ independence of walking in hospital by observation of behavior during walking or treatment. The majority of PTs focused on the patients’ state during walking, higher brain function, and their ability to balance. In addition, they often asked ward staff about patients’ daily life, and self-determination. [Conclusions] We identified the items examined by physical therapists when determining the in-hospital walking independence of stroke patients. Further investigation is required to examine which of these items are truly necessary.

Title: Pilot Randomized Controlled Trial of Self-Regulation in Promoting Function in Acute Poststroke Patients.

Citation: Archives of Physical Medicine & Rehabilitation, 01 July 2014, vol./is. 95/7(1262-1267), 00039993
Author(s): Liu, Karen P.Y., Chan, Chetwyn C.H.

Abstract: Objective: To test the efficacy of self-regulation (SR) for promoting task performance and motor and cognitive functions. Design: Pilot randomized controlled trial. Setting: Rehabilitation unit. Participants: Inpatients with acute poststroke (N=44) after a cerebral infarction aged ≥60 years. Interventions: Patients were randomly assigned to the SR (n=24) or functional rehabilitation (control; n=20) intervention. The SR intervention consisted of 1 week of therapist-supervised practices of daily tasks using SR of one's own performance (five 1-h sessions). Patients in the control intervention practiced the same daily tasks with a therapist's demonstration and guidance. Main Outcome Measures: Performance of tasks, including household and monetary transaction tasks; FIM; Fugl-Meyer Assessment (FMA); and Color Trails Test (CTT). Results: The SR group showed significant improvement in all tasks (median difference, 1–2; effect size [r]=.74–.89) versus none (median difference, 0–0.5) in the control group. Results of the FIM (P<.001, r=.87 in the motor subscale; P<.001, r=.49 in the cognitive subscale), FMA (P<.001, r=.84 for upper extremity motor function and r=.63 for lower extremity motor function), and CTT (P=.002, r=.72) of the SR group improved. The SR group outperformed their control counterparts in 4 of the 5 tasks (median difference, 1; r=.30–.52) and in the FIM motor subscale (P=.002, r=.47), but not in the cognitive subscale and motor and cognitive functions. Conclusions: SR appears useful for improving task performance that demands both motor and cognitive abilities by promoting information processing and active learning.
Title: Health-Related Quality of Life 3 Years After Moderate to Severe Traumatic Brain Injury: A Prospective Cohort Study.

Citation: Archives of Physical Medicine & Rehabilitation, 01 July 2014, vol./is. 95/7(1268-1276), 00039993
Author(s): Grauwmeijer, Erik, Heijenbrok-Kal, Majanka H., Ribbers, Gerard M.

Abstract: Abstract: Objectives: To evaluate the time course of health-related quality of life (HRQoL) after moderate to severe traumatic brain injury (TBI) and to identify its predictors. Design: Prospective cohort study with follow-up measurements at 3, 6, 12, 18, 24, and 36 months after TBI. Setting: Patients with moderate to severe TBI discharged from 3 level-1 trauma centers. Participants: Patients (N=97, 72% men) with a mean age ± SD of 32.8±13.0 years (range, 18–65y), hospitalized with moderate (23%) or severe (77%) TBI. Interventions: Not applicable. Main Outcome Measures: HRQoL was measured with the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36), functional outcomes with the Glasgow Outcome Scale (GOS), Barthel Index, FIM, and Functional Assessment Measure, and mood with the Wimbledon Self-Report Scale. Results: The SF-36 domains showed significant improvement over time for Physical Functioning (P<.001), Role Physical (P<.001), Bodily Pain (P<.001), Social Functioning (P<.001), and Role Emotional (P=.024), but not for General Health (P=.263), Vitality (P=.530), and Mental Health (P=.138). Over time there was significant improvement in the Physical Component Summary (PCS) score, whereas the Mental Component Summary (MCS) score remained stable. At 3-year follow-up, HRQoL of patients with TBI was the same as that in the Dutch normative population. Time after TBI, hospital length of stay (LOS), FIM, and GOS were independent predictors of the PCS, whereas LOS and mood were predictors of the MCS. Conclusions: After TBI, the physical component of HRQoL showed significant improvement over time, whereas the mental component remained stable. Problems of disease awareness seem to play a role in self-reported mental HRQoL. After TBI, mood status is a better predictor of the mental component of HRQoL than functional outcome, implying that mood should be closely monitored during and after rehabilitation.

Title: Factors Associated With Home Discharge Among Veterans With Stroke.

Citation: Archives of Physical Medicine & Rehabilitation, 01 July 2014, vol./is. 95/7(1277-), 00039993
Author(s): Kurichi, Jibby E., Xie, Dawei, Bates, Barbara E., Ripley, Diane Cowper, Vogel, W. Bruce, Kwong, Pui, Stineman, Margaret G.

Abstract: Abstract: Objective: To determine which patient-, treatment-, and facility-level characteristics were associated with home discharge among patients hospitalized for stroke within the Department of Veterans Affairs. Design: Retrospective observational study. Setting: Veterans Affairs facilities nationwide. Participants: Veterans hospitalized for stroke during fiscal year 2007 to fiscal year 2008 (N=12,565). Intervention: Not applicable. Main Outcome Measure: Discharge location after hospitalization. Results: There were 10,130 (80.6%) veterans discharged home after hospitalization for acute stroke. Married veterans were more likely than nonmarried veterans to be discharged home (odds ratio [OR]=1.23; 95% confidence interval [CI]=1.11–1.35). Compared with veterans admitted to the hospital from home, patients admitted from extended care were less likely to be discharged home (OR=.04; 95% CI=.03–.07). Compared with those with occlusion of cerebral arteries, patients with intracerebral hemorrhage (OR=.61; 95% CI=.50–.74) or other central nervous system hemorrhage (OR=.78; 95% CI=.63–.96) were less likely to be discharged home, whereas patients with occlusion of precerebral arteries (OR=1.36; 95% CI=1.07–1.73) were more likely to return home. Evidence of congestive heart failure (OR=.85; 95% CI=.76–.95), fluid and electrolyte disorders (OR=.86; 95% CI=.77–.96), internal organ procedures and diagnostics (OR=.87; 95% CI=.78–.97), and serious nutritional compromise (OR=.49; 95% CI=.40–.62) during hospitalization remained independently associated with lower odds of home discharge. Longer hospitalizations and receipt of rehabilitation services while hospitalized acutely were negatively associated, whereas treatment on more bed sections and rehabilitation accreditation of the facility were positively associated with home discharge. Region exerted a statistically significant effect on home discharge. Conclusions: We found sociological, clinical, and facility-level factors associated with home discharge after hospitalization for acute stroke. Findings document the importance of considering a broad range of characteristics rather than focusing only on a few specific traits during discharge planning.

Title: Body Temperature Is Elevated and Linked to Fatigue in Relapsing-Remitting Multiple Sclerosis, Even Without Heat Exposure.
Title: Skill Training for Swallowing Rehabilitation in Patients With Parkinson's Disease.

Citation: Archives of Physical Medicine & Rehabilitation, 01 July 2014, vol./is. 95/7(1374-1382), 00039993

Author(s): Athukorala, Ruvini P., Jones, Richard D., Sella, Oshrat, Huckabee, Maggie-Lee

Abstract: Objective: To examine the effects of skill training on swallowing in individuals with dysphagia secondary to Parkinson's disease (PD) and to explore skill retention after treatment termination. Design: Within-subject pilot study with follow-up after 2 weeks of treatment and after a 2-week nontreatment period. Setting: Clinic in a research institute. Participants: Patients (N=10; mean age, 67.4y) included 3 women (mean Hoehn and Yahr score, 2.6) and 7 men (mean Hoehn and Yahr score, 2.4). Intervention: Patients underwent 10 daily sessions of skill training therapy focused on increasing precision in muscle contraction during swallowing using visual feedback. Main Outcome Measures: Data from the timed water swallow test, Test of Mastication and Swallowing Solids, surface electromyography (sEMG) of submental muscles, and swallowing-related quality of life questionnaire were collected at 2 baseline sessions (conducted 2wk apart) at the end of treatment and after 2 nontreatment weeks to assess skill retention. Results: Immediately after posttreatment, the swallowing rate for liquids (P=.034), sEMG durational parameters of premotor time (P=.003), and preswallow time (P<.001) improved. A functional carryover effect was seen from dry to water swallows (P=.009). Additionally, swallowing-related quality of life improved (P=.018). Reassessment at 2 weeks after treatment termination revealed short-term retention of treatment effects. Conclusions: A skill-based training approach produced functional, biomechanical, and swallowing-related quality of life improvements in this cohort indicating compelling evidence for the effectiveness of this novel approach for dysphagia rehabilitation in PD.

Title: ‘It gave me something big in my life to wonder and think about which took over the space ... and not MS’: managing well-being in multiple sclerosis through art-making.

Citation: Disability & Rehabilitation, 01 July 2014, vol./is. 36/14(1139-1147), 09638288

Author(s): Hunt, Laura, Nikopoulou-Smyrni, Panagiota, Reynolds, Frances

Abstract: Background and aim: Individuals living with Multiple Sclerosis (MS) often face progressive loss of function, uncertainty and disruption to self-image and valued roles. Previous studies show that creative self-expression is valued by some people living with long-term illness, yet its meaning for people living with MS is unclear. This research study explored the meanings of leisure-based visual art-making for people living with MS. Method: This qualitative study followed guidelines for Interpretative Phenomenological Analysis
(IPA). Single semi-structured interviews were conducted with five adults (2 males; 3 females; 40-65 years), recruited from MS Ireland. Findings: Participants valued art-making for contributing to a more satisfying way of life; for filling occupational voids and using time well. Deep immersion offered respite from worry about illness. Creative classes offered social camaraderie and opportunities for learning and development. Art-making processes and products were highly affirmative, increasing emotional well-being and promoting self-worth. Most felt that they expressed valued aspects of self through their art. Art-making appeared to assist with identity maintenance, accommodating functional losses associated with MS whilst opening 'new doors'. Conclusion: Art-making offered a multi-faceted means of supporting identity and increasing fulfilment in lives that were restricted in many ways by MS.

Title: Supporting the growth of peer-professional workforces in healthcare settings: an evaluation of a targeted training approach for volunteer leaders of the STEPS Program.

Citation: Disability & Rehabilitation, 01 July 2014, vol./is. 36/14(1219-1226), 09638288
Author(s): Turner, Benjamin, Kennedy, Areti, Kendall, Melissa, Muenchberger, Heidi

Abstract: Purpose: To examine the effectiveness of a targeted training approach to foster and support a peer-professional workforce in the delivery of a community rehabilitation program for adults with acquired brain injury (ABI) and their families. Method: A prospective longitudinal design was used to evaluate the effectiveness of a targeted two-day training forum for peer ( n = 25) and professional ( n = 15) leaders of the Skills to Enable People and Communities Program. Leaders completed a set of questionnaires (General Self-Efficacy Scale - GSES, Rosenberg Self-Esteem Scale, Volunteer Motivation Inventory - VMI and Community Involvement Scale - CIS) both prior to and immediately following the forum. Data analysis entailed paired sample t-test to explore changes in scores over time, and independent sample t-tests for comparisons between the two participant groups. Results: The results indicated a significant increase in scores over time for the GSES ( p = 0.047). Improvements in leaders' volunteer motivations and community involvement were also observed between the two time intervals. The between group comparisons highlighted that the peer leader group scored significantly higher than the professional leader group on the CIS and several domains of the VMI at both time intervals. Conclusion: The study provides an enhanced understanding of the utility of innovative workforce solutions for community rehabilitation after ABI; and further highlights the benefits of targeted training approaches to support the development of such workforce configurations.

Title: Early intervention after perinatal stroke: opportunities and challenges.

Citation: Developmental Medicine & Child Neurology, 01 June 2014, vol./is. 56/6(516-521), 00121622
Author(s): Basu, Anna P

Abstract: Perinatal stroke is the most common cause of hemiplegic cerebral palsy. No standardized early intervention exists despite evidence for a critical time window for activity-dependent plasticity to mould corticospinal tract development in the first few years of life. Intervention during this unique period of plasticity could mitigate the consequences of perinatal stroke to an extent not possible with later intervention, by preserving the normal pattern of development of descending motor pathways. This article outlines the broad range of approaches currently under investigation. Despite significant progress in this area, improved early detection and outcome prediction remain important goals.

Title: Interventions for improving sit-to-stand ability following stroke.

Citation: Cochrane Database of Systematic Reviews, 01 May 2014, vol./is. /5(0-), 1469493X
Author(s): Pollock A, Gray C, Culham E, Durward BR, Langhorne P

Abstract: BACKGROUND: Standing up from a seated position is one of the most frequently performed functional tasks, is an essential pre-requisite to walking and is important for independent living and preventing falls. Following stroke, patients can experience a number of problems relating to the ability to sit-to-stand independently. OBJECTIVES: To review the evidence of effectiveness of interventions aimed at improving sit-to-stand ability after stroke. The primary objectives were to determine (1) the effect of interventions that alter the starting posture (including chair height, foot position, hand rests) on ability to sit-to-stand independently; and (2) the effect of rehabilitation interventions (such as repetitive practice and exercise programmes) on ability to sit-to-stand independently. The secondary objectives were to determine
the effects of interventions aimed at improving ability to sit-to-stand on: (1) time taken to sit-to-stand; (2) symmetry of weight distribution during sit-to-stand; (3) peak vertical ground reaction forces during sit-to-stand; (4) lateral movement of centre of pressure during sit-to-stand; and (5) incidence of falls. SEARCH METHODS: We searched the Cochrane Stroke Group Trials Register (June 2013), CENTRAL (2013, Issue 5), MEDLINE (1950 to June 2013), EMBASE (1980 to June 2013), CINAHL (1982 to June 2013), AMED (1985 to June 2013) and six additional databases. We also searched reference lists and trials registers and contacted experts. SELECTION CRITERIA: Randomised trials in adults after stroke where: the intervention aimed to affect the ability to sit-to-stand by altering the posture of the patient, or the design of the chair; stated that the aim of the intervention was to improve the ability to sit-to-stand; or the intervention involved exercises that included repeated practice of the movement of sit-to-stand (task-specific practice of rising to stand). The primary outcome of interest was the ability to sit-to-stand independently. Secondary outcomes included time taken to sit-to-stand, measures of lateral symmetry during sit-to-stand, incidence of falls and general functional ability scores.

DATA COLLECTION AND ANALYSIS: Two review authors independently screened abstracts, extracted data and appraised trials. We undertook an assessment of methodological quality for random sequence generation, allocation concealment, blinding of outcome assessors and method of dealing with missing data. MAIN RESULTS: Thirteen studies (603 participants) met the inclusion criteria for this review, and data from 11 of these studies were included within meta-analyses. Twelve of the 13 included studies investigated rehabilitation interventions; one (nine participants) investigated the effect of altered starting posture for sit-to-stand. We judged only four studies to be at low risk of bias for all methodological parameters assessed. The majority of randomised controlled trials included participants who were already able to sit-to-stand or walk independently. Only one study (48 participants), which we judged to be at high risk of bias, reported our primary outcome of interest, ability to sit-to-stand independently, and found that training increased the odds of achieving independent sit-to-stand compared with control (odds ratio (OR) 4.86, 95% confidence interval (CI) 1.43 to 16.50, very low quality evidence). Interventions or training for sit-to-stand improved the time taken to sit-to-stand and the lateral symmetry (weight distribution between the legs) during sit-to-stand (standardised mean difference (SMD) -0.34; 95% CI -0.62 to -0.06, seven studies, 335 participants; and SMD 0.85; 95% CI 0.38 to 1.33, five studies, 105 participants respectively, both moderate quality evidence). These improvements are maintained at long-term follow-up. Few trials assessing the effect of sit-to-stand training on peak vertical ground reaction force (one study, 54 participants) and functional ability (two studies, 196 participants) were identified, providing very low and low quality evidence respectively. The effect of sit-to-stand training on number of falls was imprecise, demonstrating no benefit or harm (OR 0.75, 95% CI 0.46 to 1.22, five studies, 319 participants, low quality evidence). We judged the majority of studies that assessed falls to be at high risk of bias. AUTHORS’ CONCLUSIONS: This review has found insufficient evidence relating to our primary outcome of ability to sit-to-stand independently to reach any generalisable conclusions. This review has found moderate quality evidence that interventions to improve sit-to-stand may have a beneficial effect on time taken to sit-to-stand and lateral symmetry during sit-to-stand, in the population of people with stroke who were already able to sit-to-stand independently. There was insufficient evidence to reach conclusions relating to the effect of interventions to improve sit-to-stand on peak vertical ground reaction force, functional ability and falls. This review adds to a growing body of evidence that repetitive task-specific training is beneficial for outcomes in people receiving rehabilitation following stroke. [CINAHL Note: The Cochrane Collaboration systematic reviews contain interactive software that allows various calculations in the MetaView.]

Full Text: Available from Wiley in Cochrane Library, The

Sources Used: The following databases are used in the creation of this bulletin: Amed, Cinahl & Medline.

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