Rehabilitation

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Jason Ovens
Head of Library & Knowledge Services
Healthcare you can Trust
Title: Stroke survivor and carer perspectives of the concept of recovery: a qualitative study.

Citation: Disability & Rehabilitation, 01 April 2013, vol./is. 35/7(578-585), 09638288
Author(s): Graven, Christine, Sansonetti, Danielle, Moloczij, Natasha, Cadilhac, Dominique, Joubert, Lynette

Abstract: Purpose: This study was designed to explore the concept of recovery from the perspectives of stroke survivors and informal carers. The aim of this qualitative study was to identify the main factors that are perceived to contribute to recovery after stroke. Method: Data were obtained via focus groups using semistructured questionnaires. One focus group included all participants (n = 14). This was followed by separate focus groups for stroke survivors (n = 8) and informal carers (n = 6). The data from the three focus groups were analysed using thematic analysis, whereby themes and sub-themes were identified and summarised via dual coding. Results: The main theme identified was 'individual recovery expectations'. The contributing sub-themes were: 'essential elements of recovery', 'returning home' and 'the environment of rehabilitation'. The predominant factors to arise from this study surround the concepts of 'returning to normality' for the stroke survivor and the 'tension of providing care' for informal carers. Conclusion: This study provides a current description of stroke survivor and carer expectations of recovery. There are diverse and ongoing concerns that can be encountered into the chronic phase poststroke. Models of community-based care should adopt targeted interventions that concurrently consider stroke survivor and carer's individual concepts of recovery.

Title: Needs, priorities, and desired rehabilitation outcomes of family members of young adults who have had a stroke: findings from a phenomenological study.

Citation: Disability & Rehabilitation, 01 April 2013, vol./is. 35/7(586-595), 09638288
Author(s): Lawrence, Maggie, Kinn, Sue

Abstract: Purpose: This study explored the experience of stroke from the perspective of family members of young adults who have had a stroke. Gaining understanding of the short, medium and long-term needs and desired rehabilitation outcomes of family members assisted identification of appropriate family-centred multidisciplinary rehabilitation interventions. Method: A qualitative approach based on Merleau-Ponty's existential phenomenology enabled exploration of family members' experience of stroke. Eleven family members, including parents, spouses, children and siblings, participated in 24 interviews over 2 years. A subsequent iterative process of critical reflection was used to identify family-centred needs, priorities and associated rehabilitation outcomes. Results: Within a thematic framework, family members' experience was conceptualised as Disruption of Temporal Being. Against this overarching theme or (back)ground, figural themes were identified: Uncertainty, Disrupted and Altered Relationships, and Situatedness. In addition, sixteen short, medium and long-term effects of stroke were identified along with associated family-centred needs and rehabilitation outcomes. Conclusion: An empathetic understanding of the experience of stroke from the perspective of family members, combined with research evidence and professional expertise enables the multidisciplinary rehabilitation team to deliver tailored interventions based on identified needs and priorities, and negotiation of mutually agreed goals.

Title: Characterizing the Protocol for Early Modified Constraint-induced Movement Therapy in the EXPLICIT-Stroke Trial.

Citation: Physiotherapy Research International, 01 March 2013, vol./is. 18/1(1-15), 13582267
Author(s): Nijland, Rinske, Wegen, Erwin, Krogt, Hanneke, Bakker, Chantal, Buma, Floor, Klomp, Asbjørn, Kordelaar, Joost, Kwakkel, Gert

Abstract: Constraint-induced movement therapy (CIMT) is a commonly used rehabilitation intervention to improve upper limb function after stroke. CIMT was originally developed for patients with a chronic upper
limb paresis. Although there are indications that exercise interventions should start as early as possible after stroke, only a few randomized controlled trials have been published on either CIMT or modified forms of CIMT (mCIMT) during the acute phase after stroke. The implementation of (m)CIMT in published studies is very heterogeneous in terms of content, timing and intensity of therapy. Moreover, mCIMT studies often fail to provide a detailed description of the protocol applied. The purpose of the present paper is therefore to describe the essential elements of the mCIMT protocol as developed for the EXplaining PLastICITy after stroke (EXPLICIT-stroke) study. The EXPLICIT-stroke mCIMT protocol emphasizes restoring body functions, while preventing the development of compensatory movement strategies. More specifically, the intervention aims to improve active wrist- and finger extension, which is assumed to be a key factor for upper limb function. The intervention starts within 2 weeks after stroke onset. The protocol retains two of the three key elements of the original CIMT protocol, that is, repetitive training and the constraining element. Repetitive task training is applied for 1 hour per working day, and the patients wear a mitt for at least 3 hours per day for three consecutive weeks. Copyright © 2012 John Wiley & Sons, Ltd.

Title: Measuring activity and participation outcomes for children and youth with acquired brain injury: an occupational therapy perspective.

Citation: British Journal of Occupational Therapy, 15 February 2013, vol./is. 76/2(67-76), 03080226
Author(s): Dunford, Carolyn, Bannigan, Katrina, Wales, Lorna

Abstract: Introduction: Intervention outcomes for children and youth with acquired brain injuries should be measured in terms of participation in activities. The aim of this study was to explore the occupational therapy outcome measures used with this group. Method: One cycle of an action research study, which focused specifically on occupational therapists, is reported. Ten occupational therapists working with children and youth with acquired brain injuries collated the outcome measures they used and mapped their frequently used measures onto the International Classification of Functioning, Disability and Health - Children and Youth, using established linking rules. Findings: Forty-two outcome measures and assessments were identified. Of these, 19 were used frequently and 15 were used as outcome measures. All activity and participation domains were represented, with learning and applying knowledge, mobility, communication and self-care (except looking after one's health) particularly well covered. Conclusion: Occupational therapists are using measures that reflect the domains of activity and participation, unlike those previously identified which were linked predominantly to body functions. The importance of occupational therapists working in rehabilitation teams is reiterated in that some of the domains that are not covered by occupational therapists impact on participation, for example, pain.

Title: Treatment for Acquired Apraxia of Speech: Examination of Treatment Intensity and Practice Schedule.

Citation: American Journal of Speech-Language Pathology, 01 February 2013, vol./is. 22/1(84-102), 10580360
Author(s): Wambaugh, Julie L., Nessler, Christina, Cameron, Rosalea, Mauszycki, Shannon C.

Abstract: Purpose: The authors designed this investigation to extend the development of a treatment for acquired apraxia of speech (AOS)-sound production treatment (SPT)-by examining the effects of 2 treatment intensities and 2 schedules of practice. Method: The authors used a multiple baseline design across participants and behaviors with 4 speakers with chronic AOS and aphasia. Accuracy of production of trained and untrained words in phrases served as the dependent measure. Participants received 4 permutations of SPT (i.e., intensive- blocked, intensive-random, traditional-blocked, and traditional- random) applied sequentially to different lists of words. Results: Positive changes in accuracy of articulation were observed for all participants for all phases of treatment. Two participants had a slightly poorer response to the traditional-random application of treatment. However, no clinically meaningful differences were noted among treatment applications when follow-up data were considered. Conclusions: Findings from this preliminary Phase II investigation suggest that similar outcomes may be achieved with SPT applied with different treatment intensities and different practice schedules. Extending treatment to achieve higher levels of accuracy may have improved maintenance effects, which may have revealed possible differences among conditions. In addition, overlap in methods used for random and blocked practice may have minimized distinctions between these conditions.
Title: An Evidence-Based Systematic Review on Communication Treatments for Individuals With Right Hemisphere Brain Damage.

Citation: American Journal of Speech-Language Pathology, 01 February 2013, vol./is. 22/1(146-160), 10580360
Author(s): Blake, Margaret Lehman, Frymark, Tobi, Venedictov, Rebecca

Abstract: Purpose: The purpose of this review is to evaluate and summarize the research evidence related to the treatment of individuals with right hemisphere communication disorders. Method: A comprehensive search of the literature using key words related to right hemisphere brain damage and communication treatment was conducted in 27 databases (e.g., PubMed, CINAHL). On the basis of a set of pre-established clinical questions, inclusion/exclusion criteria, and search parameters, studies investigating sentence- or discourse-level treatments were identified and evaluated for methodological quality. Data regarding participant, intervention, and outcome variables were reported. Results: Only 5 studies were identified, each representing a different sentence- or discourse-level treatment approach and reporting a wide range of prosodic, expressive, receptive, and pragmatic outcomes. Conclusion: Although the state of the evidence pertaining to right hemisphere communication treatments is at a very preliminary stage, some positive findings were identified to assist speech-language pathologists who are working with individuals with right hemisphere brain damage. Clinical implications and recommendations for future research are explored.

Title: Promoting sleep in neurorehabilitation patients: theory and practice.

Citation: British Journal of Neuroscience Nursing, 01 February 2013, vol./is. 9/1(16-21), 17470307
Author(s): Pywell, Alison

Abstract: Sleep disorders are very common following brain injuries, with estimates ranging from 27-80% of patients being affected (Thaxton and Myers, 2002; Parcell et al. 2006). Inappropriate use of sedating medications can be detrimental to patients, and this practice appears to be widespread (Dorris et al, 2008; Makley et al, 2008). Patients who are discharged with sleep problems are more likely to be restrained by their carers (Makley et al, 2008). Depression and cognitive and behavioural disorders can all be compounded by lack of sleep (Thaxton and Myers, 2002). It is the nurse’s role to ensure that the patient experiences the best possible sleep at every stage of their recovery, from injury to discharge.

Title: A pilot study of the effects of progressive muscle relaxation on fatigue specific to multiple sclerosis.

Citation: British Journal of Neuroscience Nursing, 01 February 2013, vol./is. 9/1(35-41), 17470307
Author(s): Moriya, Rika, Ikeda, Nanae

Abstract: This study aimed to examine the effect of progressive muscle relaxation (PMR) on fatigue over 3 months in four people with multiple sclerosis (MS) and to identify implementation problems. Subjective fatigue was measured using the Visual Analogue Scale (VAS), quality of life using the SF-8, and mood using the Profile of Mood States (POMS) after 1, 7 and 14 days and 1, 2 and 3 months following initiation of PMR. The participants also maintained diaries of their experiences. For three of the four participants, VAS scores reduced and mental quality of life (QoL) and mood stability improved over the period of the study. By contrast, physical QoL was reduced, and the diary entries indicated problems such as difficulty in maintaining the programme and paraesthesia associated with implementation. These findings suggest that
PMR has a beneficial effect on fatigue in some people with MS and may enable it to be predicted and controlled.

Title: Anxiety and depression after stroke: A 5 year follow-up.

Citation: Disability and Rehabilitation: An International, Multidisciplinary Journal, January 2013, vol./is. 35/2(140-145), 0963-8288;1464-5165 (Jan 2013)


Abstract: Purpose: The aim was to document the prevalence and predictors of anxiety and depression 5 years after stroke, across four European centres. Method: A cohort of 220 stroke patients was assessed at 2, 4 and 6 months and 5 years after stroke. Patients were assessed on the Hospital Anxiety and Depression Scale and measures of motor function and independence in activities of daily living. Results: At 5 years, the prevalence of anxiety was 29% and depression 33%, with no significant differences between centres. The severity of anxiety and depression increased significantly between 6 months and 5 years. Higher anxiety at 6 months and centre were significantly associated with anxiety at 5 years, but not measures of functional recovery. Higher depression scores at 6 months, older age and centre, but not measures of functional recovery, were associated with depression at 5 years. Conclusions: Anxiety and depression were more frequent at 5 years after stroke than at 6 months. There were significant differences between four European centres in the severity of anxiety and depression. Although the main determinant of anxiety or depression scores at 5 years was the level of anxiety or depression at 6 months, this accounted for little of the variance. Centre was also a significant predictor of mood at 5 years. There needs to be greater recognition of the development of mood disorders late after stroke and evaluation of variation in management policies across centres. (PsycINFO Database Record (c) 2013 APA, all rights reserved) (journal abstract)

Interventions for improving coordination of reach to grasp following stroke: a systematic review (Provisional abstract)

Database of Abstracts of Reviews of Effects 2013 Issue 1 (Status: New)


Interventions for coordination of walking following stroke: systematic review (Provisional abstract)

Database of Abstracts of Reviews of Effects 2013 Issue 1 (Status: New)


Title: Community-Based Argentine Tango Dance Program Is Associated With Increased Activity Participation Among Individuals With Parkinson’s Disease.

Citation: Archives of Physical Medicine & Rehabilitation, 01 February 2013, vol./is. 94/2(240-249), 00039993

Author(s): Foster, Erin R., Golden, Laura, Duncan, Ryan P., Earhart, Gammon M.

Abstract: Abstract: Objective: To determine the effects of a 12-month community-based tango dance program on activity participation among individuals with Parkinson’s disease (PD). Design: Randomized
controlled trial with assessment at baseline, 3, 6, and 12 months. Setting: Intervention was administered in the community; assessments were completed in a university laboratory. Participants: Volunteers with PD (n=62) enrolled in the study and were randomized to a treatment group; 10 participants did not receive the allocated intervention, and therefore the final analyzed sample included 52 participants. Interventions: Participants were randomly assigned to the tango group, which involved 12 months of twice-weekly Argentine tango dance classes, or to the no intervention control group (n=26 per group). Main Outcome Measure: Current, new, and retained participation in instrumental, leisure, and social activities, as measured by the Activity Card Sort (with the dance activity removed). Results: Total current participation in the tango group was higher at 3, 6, and 12 months compared with baseline (Ps ≤ 0.008), while the control group did not change (Ps ≥ 0.11). Total activity retention (since onset of PD) in the tango group increased from 77% to 90% (P = 0.006) over the course of the study, whereas the control group remained around 80% (P = 0.60). These patterns were similar in the separate activity domains. The tango group gained a significant number of new social activities (P = 0.003), but the control group did not (P = 0.71). Conclusions: Individuals with PD who participated in a community-based Argentine tango class reported increased participation in complex daily activities, recovery of activities lost since the onset of PD, and engagement in new activities. Incorporating dance into the clinical management of PD may benefit participation and subsequently quality of life for this population.

Title: Association between use of interferon beta and progression of disability in patients with relapsing-remitting multiple sclerosis.

Citation: JAMA Neurology, February 2013, vol./is. 70/2(248), 2168-6149;2168-6157 (Feb 2013)

Author(s): Shirani, Afsaneh, Zhao, Yinshan, Karim, Mohammad Ehsanul, Evans, Charity, Kingwell, Elaine, van der Kop, Mia L, Oger, Joel, Gustafson, Paul, Petkau, John, Tremlet, Helen

Abstract: Context: Interferon beta is widely prescribed to treat multiple sclerosis (MS); however, its relationship with disability progression has yet to be established. Objective: To investigate the association between interferon beta exposure and disability progression in patients with relapsing-remitting MS. Design, Setting, and Patients: Retrospective cohort study based on prospectively collected data (1985-2008) from British Columbia, Canada. Patients with relapsing-remitting MS treated with interferon beta (n = 868) were compared with untreated contemporary (n = 829) and historical (n = 959) cohorts. Main Outcome Measures: The main outcome measure was time from interferon beta treatment eligibility (baseline) to a confirmed and sustained score of 6 (requiring a cane to walk 100 m; confirmed at >150 days with no measurable improvement) on the Expanded Disability Status Scale (EDSS) (range, 0-10, with higher scores indicating higher disability). A multivariable Cox regression model with interferon beta treatment included as a time-varying covariate was used to assess the hazard of disease progression associated with interferon beta treatment. Analyses also included propensity score adjustment to address confounding by indication. Results: The median active follow-up times (first to last EDSS measurement) were as follows: for the interferon beta-treated cohort, 5.1 years (interquartile range [IQR], 3.0-7.0 years); for the contemporary control cohort, 4.0 years (IQR, 2.1-6.4 years); and for the historical control cohort, 10.8 years (IQR, 6.3-14.7 years). The observed outcome rates for reaching a sustained EDSS score of 6 were 10.8%, 5.3%, and 23.1% in the 3 cohorts, respectively. After adjustment for potential baseline confounders (sex, age, disease duration, and EDSS score), exposure to interferon beta was not associated with a statistically significant difference in the hazard of reaching an EDSS score of 6 when either the contemporary control cohort (hazard ratio, 1.30; 95% CI, 0.92-1.83; P = .14) or the historical control cohort (hazard ratio, 0.77; 95% CI, 0.58-1.02; P = .07) were considered. Further adjustment for comorbidities and socioeconomic status, where possible, did not change interpretations, and propensity score adjustment did not substantially change the results. Conclusion: Among patients with relapsing-remitting MS, administration of interferon beta was not associated with a reduction in progression of disability. (PsycINFO Database Record (c) 2013 APA, all rights reserved) (journal abstract)

Title: Breaking bad news in stroke rehabilitation: a consultation with a community stroke team.

Citation: Disability & Rehabilitation, 01 May 2013, vol./is. 35/8(694-701), 09638288

Author(s): Phillips, J., Kneebone, I. I., Taverner, B.
Abstract: Purpose: Within stroke care clinicians are frequently required to break bad news to patients, however, formal training and guidance remains limited. This article provides a case example of a multidisciplinary stroke rehabilitation team consultation, and aims to contribute towards an evidence base and a model of training for breaking bad news (BBN) in stroke care. Method: The stroke rehabilitation team requested clinical psychology consultation to help with difficulties they were experiencing in BBN to patients. The consultation comprised an assessment of the request, development of a proposal, delivery of a workshop on BBN and an evaluation of consultation impact. A collaborative consultation model underpinned the work, which aimed to empower and facilitate the team to generate solutions by drawing upon their existing expertise. Results: The consultation was found to meet the team's expectations and needs. Consultees reported increased confidence to communicate difficult messages to patients and rated the consultation highly. A follow-up review indicated the consultation had led to changes in practice. Conclusions: Communication skills are central to BBN effectively. Clinicians may be supported to recognize their existing skill set and increase confidence in their ability to break bad news through a process of collaborative team consultation.

Title: Association between glenohumeral subluxation and hemiplegic shoulder pain in patients with stroke.

Citation: Physical Therapy Reviews, 01 April 2013, vol./is. 18/2(90-100), 10833196
Author(s): Kumar, Praveen, Saunders, Amanda, Ellis, Emily, Whittam, Sarah

Abstract: Background: Glenohumeral subluxation (GHS) and hemiplegic shoulder pain (HSP) are the most common musculoskeletal complications reported in patients with stroke. These secondary problems present considerable challenges to the rehabilitation of the upper limb. Objective: The aim of this review was to evaluate the evidence on the association between shoulder subluxation and pain in patients with stroke. Method: A systematic online search was conducted of MEDLINE, EMBASE, CINAHL, AMED, Biomed Central, and the Cochrane Library. The search was supplemented by hand searching of relevant journals and citation tracking of the retrieved papers. All primary studies published in English language fulfilling the review's inclusion criteria were included. Five reviewers independently appraised the methodological quality of the selected studies. Any discrepancies were resolved following discussions. Results: Of the 148 articles that were identified by the search, 14 studies met the criteria to be included in the review. Seven studies found an association and seven studies did not find an association between subluxation and pain. The methodological quality of the studies varied considerably and studies used a wide range of outcome measures to assess both subluxation and pain. Conclusions: Irrespective of any association, both subluxation and pain can independently have an impact on functional rehabilitation. Management of these clinical outcomes is critical in clinical practice and clinicians should continue to prevent and reduce these post-stroke secondary complications to enhance upper limb function.

Full Text: Available from Ingenta in Physical Therapy Reviews; Note: ; Notes: username: combe password: park Available from EBSCOhost EJS in Physical Therapy Reviews; Note: ; Notes: Customer code:ruh-bath Username:library Password:movie

Title: Using a comprehensive and standardised cognitive screen to guide cognitive rehabilitation in stroke.

Citation: British Journal of Occupational Therapy, 15 March 2013, vol./is. 76/3(151-156), 03080226
Author(s): Bisiker, Jane, Bickerton, Wai-Ling

Abstract: This practice analysis introduces the Birmingham Cognitive Screen (BCoS), a comprehensive screening tool for stroke survivors including individuals with aphasia and visuospatial neglect. A case study is used to demonstrate how the cognitive profiles created by the multiple-domain assessment at different time points can reduce the need to use multiple standardised assessments to check relative deficits and residual abilities, as well as to guide the rehabilitation process, educate the stroke survivor and family, monitor improvement in impairment and help the therapist to evaluate his or her treatment.
Title: Attitudes to multiple sclerosis in rehabilitation centres need to change.

Citation: International Journal of Therapy & Rehabilitation, 01 March 2013, vol./is. 20/3(119-119), 17411645
Author(s): Balakatounis, Konstantine C.

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

Title: Factor Structure, Reliability, and Validity of the Frontal Systems Behavior Scale (FrSBe) in an Acute Traumatic Brain Injury Population.

Citation: Rehabilitation Psychology, 01 February 2013, vol./is. 58/1(51-63), 00905550
Author(s): Niemeier, Janet P., Perrin, Paul B., Holcomb, Megan G., Nersessova, Karine S., Roiston, Cynthia D.

Abstract: Objective: This study investigated the psychometric properties of the Frontal Systems Behavior Scale (FrSBe) in an acute traumatic brain injury (TBI) population across indices of factor structure, reliability, and validity. Method: Data were collected from 101 individuals undergoing acute rehabilitation for moderate and severe TBI both upon emergence from posttraumatic amnesia and at hospital discharge, as well as from their family members or caregivers. Results: Four separate confirmatory factor analyses (CFAs) suggested that the FrSBe's three-factor/three-subscale solution did not fit the data well, and follow-up CFAs employing a one-factor structure similarly yielded poor fit indices. Four exploratory factor analyses (EFAs) failed to produce factor solutions consistent with each other or that resembled the factor solution retained in the EFA during the FrSBe's initial construction. The FrSBe had sufficiently high internal consistency at the total-score and subscale-score levels, good convergent validity with other indices of TBI functioning, and good test-retest reliability in the family administration of the measure, but not in the patient administration. Conclusions: The FrSBe is an appropriate measure for use in an inpatient TBI population when using the total score and the family administration, though its subscales and patient administration warrant more rigorous examination.

Title: Neurofeedback-Assisted Stroke Rehabilitation Revisited.

Citation: Journal of Neurotherapy, 02 January 2013, vol./is. /(15-17), 10874208
Author(s): Montgomery, Penelope S., Lippmann, Glenda K.

Title: Neurofeedback for Hemiplegic Stroke: A Case Report.

Citation: Journal of Neurotherapy, 02 January 2013, vol./is. /(19-21), 10874208
Author(s): Hammond, D. Corydon

Abstract: This paper describes the neurofeedback treatment of a woman seven years after a stroke left her hemiplegic. Marked improvement was obtained.

Title: Robotics in Stroke Rehabilitation: A New Mission for Bio/Neurofeedback?

Citation: Journal of Neurotherapy, 02 January 2013, vol./is. /(42-46), 10874208
Author(s): Riss, Roger H.

Title: Mirror therapy for patients with severe arm paresis after stroke – a randomized controlled trial.

Citation: Clinical Rehabilitation, 01 April 2013, vol./is. 27/4(314-324), 02692155
Author(s): Thieme, Holm, Bayn, Maria, Wurg, Marco, Zange, Christian, Pohl, Marcus, Behrens, Johann
Title: Physical Therapy and Concussion Management.

Citation: Rehab Management: The Interdisciplinary Journal of Rehabilitation, 01 April 2013, vol./is. 26/3(18-21), 08996237
Author(s): Werner, Brian K

Title: The Impact of Interactions with Providers on Stroke Caregivers’ Needs.

Citation: Rehabilitation Nursing, 01 March 2013, vol./is. 38/2(88-98), 02784807
Author(s): Creasy, Kerry Rae, Lutz, Barbara J., Young, Mary Ellen, Ford, Ariel, Martz, Crystal

Abstract: Purpose Preparation for caregiving is improved through engaged interactions between stroke family caregivers and healthcare providers throughout the care trajectory. We explored caregivers' perceptions about interactions with providers in rehabilitation, and how these experiences affected caregiver preparation. Design Seventeen caregivers, included in this grounded theory study, were interviewed during a rehabilitation stay and postdischarge. Data were analyzed using dimensional and comparative analysis. Findings Caregivers described interactions with providers on a continuum from collaborative to disconnected, and a range of strategies to enhance interactions. Conclusions Caregivers want to be actively engaged with providers during inpatient rehabilitation and collaborative interactions enhance preparedness and care satisfaction. Relevance Family members should be assessed for caregiving capacity and interactions between providers and caregivers should be individualized to specific needs. Providers must also be aware that many caregivers are not active information seekers. They must engage caregivers who may not even know what questions to ask.

Title: Mortality of elderly individuals with TBI in the first 5 years following injury.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(225-232), 10538135
Author(s): Hirshson, Chari I., Gordon, Wayne A., Singh, Ayushi, Ambrose, Anne, Spielman, Lisa, Dams-O'Connor, Kristen, Cantor, Joshua, Dijkers, Marcel

Abstract: INTRODUCTION: Although there has been a decline in the incidence of TBI in the general population, the rate of TBI in older adults has increased. Increased age has been long recognized as a predictor of worse outcomes after TBI. Despite the growing number of TBI in the elderly, our understanding of the long-term consequences of TBI is quite limited. METHODS: Chart review; individuals 55 years and older, who completed inpatient acute rehabilitation during the period 2003-2009 and who died one to four years after injury, were compared to matched patients who did not die. RESULTS: There were a significantly higher proportion of deceased subjects with a diagnosis of Abnormality of Gait (53%), respiratory medications at admission (32%) and discharge (17%). Deceased participants were more likely to be prescribed diabetes medication at discharge (35%) while controls were more likely to be prescribed cholesterol-lowering medications (27%) at admission. Deceased patients were discharged with significantly more medications, CONCLUSIONS: The results suggest the need for medical and lifestyle interventions for selected elderly TBI patients. The factors related to death following TBI in the elderly are in need of more research.

Title: Inpatient rehabilitation for traumatic brain injury: The influence of age on treatments and outcomes.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(233-252), 10538135
Author(s): Dijkers, Marcel, Brandstater, Murray, Horn, Susan, Ryser, David, Barrett, Ryan

Abstract: BACKGROUND: Elderly persons with traumatic brain injury (TBI) are increasingly admitted to inpatient rehabilitation, but we have limited knowledge of their characteristics, the treatments they receive, and their short-term and medium-term outcomes. This study explored these issues by means of comparisons between age groups. METHODS: Data on 1419 patients admitted to 9 inpatient rehabilitation facilities for initial rehabilitation after TBI were collected by means of (1) abstraction from medical records; (2) point-of-care forms completed by therapists after each treatment session; and (3) interviews at 3 months and 9 months after discharge, conducted with the patient or a proxy. RESULTS: Elderly persons (65 or older) had a lower brain injury severity, and a shorter length of stay (LOS) in acute care. During rehabilitation, they received fewer hours of therapy, due to a shorter LOS and fewer hours of treatment per day, especially from psychology and therapeutic recreation. They regained less functional ability during and after inpatient rehabilitation, and had a very high mortality rate. CONCLUSIONS: Elderly people can be rehabilitated successfully, and discharged back to the community. The treatment therapists deliver, and issues surrounding high mortality need further research.

Title: Effects of functional movement strength training on strength, muscle size, kinematics, and motor function in cerebral palsy: A 3-month follow-up.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(287-295), 10538135
Author(s): Lee, Jung Ah, You, Joshua H., Kim, Dong A., Lee, Min Jin, Hwang, Pil Woo, Lee, Nam Gi, Park, Jeong Joon, Lee, Dong Ryul, Kim, Hyun-Kyung

Abstract: We investigated the long-term effects of comprehensive hand repetitive intensive strengthening training (CHRIST) on strength, morphological muscle size, kinematics, and associated motor functional changes in children with cerebral palsy (CP). Ten children (5 boys, 5 girls; age range, 6-11 years, mean age, 8.6 years) participated in the study. The children were classified according to the Manual Ability Classification System: 5 were Level II, 2 were Level III, and 3 were Level IV. Quantitative biomechanical measurements were performed to determine muscle strength, muscle size, kinematics (normalized jerk score), and motor function using a dynamometer, ultrasound, Vicon motion analysis, and standardized clinical tests (Quality of Upper Extremity Skills Test, Jebsen-Taylor Hand Function Test, Functional Independence Measure, and Pediatric Motor Activity Log), respectively. Muscle strength, muscle size, kinematics, and motor function significantly improved after a 10-week intervention (3 times a week), and the long-term effects remained even at the 3-month follow-up. In conclusion, this is the first study highlighting the long-term efficacy of upper extremity strength training using the novel CHRIST system in children with CP, which will potentially open up new horizons for effective management in pediatric neurorehabilitation.

Title: Motor function-related maladaptive plasticity in stroke: A review.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(311-316), 10538135
Author(s): Jang, Sung Ho

Abstract: Brain plasticity can be classified as adaptive and maladaptive. Maladaptive plasticity indicates hindered functional recovery or the development of an unwanted symptom. Although a considerable amount is known about adaptive plasticity in stroke, relatively little is known of maladaptive plasticity. In the current study, previous studies on motor function-related maladaptive plasticity in stroke are reviewed in terms of compensatory movement pattern (CMP), delayed-onset involuntary abnormal movements (IAMs), and the ipsilateral motor pathway as a motor recovery mechanism. For successful stroke rehabilitation, it is important that the characteristics of maladaptive plasticity are accurately recognized. However, there is a lack of definitive evidence regarding the recognition of motor function-related maladaptive plasticity, although it seems that each of the three above-mentioned topics are involved. As for CMP, patients with a good neurological state as much as having a normal movement pattern, should be considered to have maladaptive plasticity, and in terms of the ipsilateral motor pathway, patients with bilateral innervations can be considered to have maladaptive plasticity. On the other hand, IAMs due to delayed neuronal degeneration should be ruled out in patients with delayed-onset IAMs. Therefore, for the accurate recognition of motor function-related maladaptive plasticity in stroke, a thorough evaluation of neurological
state using brain mapping techniques is necessary, and subsequently, the prevention or intensive management of maladaptive plasticity is needed.

Title: Effects of aerobic cycling training on cardiovascular fitness and heart rate recovery in patients with chronic stroke.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(327-335), 10538135
Author(s): Jin, Hong, Jiang, Yibo, Wei, Qin, Chen, Long, Ma, Genshan

Abstract: OBJECTIVE: Using heart rate recovery (HRR) after exercise as an index of autonomic function, we evaluate the effects of aerobic cycling training on HRR and cardiovascular fitness (peak VO$_2$) in chronic stroke patients and investigate the relationship between changes in HRR and those in peak VO$_2$. METHODS: 128 participants with chronic stroke were randomized to a 12-week (5×/week) progressive aerobic cycling training group (n = 65) or a control group (n = 63). Peak VO$_2$, muscle strength, 6-minute walking distance (6MWD) and HRR were measured before and after the intervention. RESULTS: Cycling training leads to significant increase in peak VO$_2$, HRR, muscle strength and 6MWD. In the cycling group, percent changes in peak VO$_2$ were positively associated with those in paretic and nonparetic muscle strength and HRR. Linear regression revealed that percent increases in peak VO$_2$ were significantly correlated with percent changes in HRR when controlling for pre-peak VO$_2$, age, gender, duration since stroke and improved muscle strength. CONCLUSION: Aerobic cycling training can favorably modify HRR in stroke survivors. Rapid HRR, as an indicator of enhanced autonomic function, is useful for predicting gains in cardiovascular fitness. These findings indicate the underlying importance of autonomic modulation on cardiovascular adaptations to stroke exercise rehabilitation.

Title: Circadian and homeostatic changes of sleep-wake and quality of life in stroke: Implications for neurorehabilitation.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(337-343), 10538135
Author(s): Cavalcanti, Paula Regina Aguilar, Campos, Tania Fernandes, Araújo, John Fontenele

Abstract: The present study aimed to assess changes in the circadian and homeostatic control of the sleep-wake pattern in stroke patients and correlations with quality of life. Participants were 22 patients (55 ± 12 years) and 24 healthy subjects (57 ± 11 years). Instruments used were: the Pittsburgh Sleep Quality Index, SF-36 Questionnaire and Actigraphy. Data were analyzed by Mann-Whitney test and Spearman’s correlation. Results identified a significant difference in sleep quality and quality of life between patients and healthy subjects, with patients on average exhibiting poor sleep quality (patients: 8.4 ± 3.4; healthy subjects: 6.2 ± 2.5; p = 0.0001) and low quality of life scores (p < 0.001). Correlation analysis detected an association between circadian variables (total activity, start and finish times of activity) and quality of life (p < 0.001). Associations between homeostatic variables (sleep duration, latency and efficiency) and quality of life were also significant (p < 0.001). In conclusion, results in this study showed compromised sleep quality and quality of life in the patients evaluated, associated with circadian and homeostatic alterations. This suggests that complaints regarding poor sleep quality be taken into consideration when planning the rehabilitation of stroke patients.

Title: Temporal recovery and predictors of upper limb dexterity in the first year of stroke: A prospective study of patients admitted to a rehabilitation centre.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(345-350), 10538135
Author(s): Kong, Keng-He, Lee, Jeanette

Abstract: OBJECTIVE: To document temporal recovery of upper extremity dexterity and establish predictors of limb dexterity in a cohort of stroke patients in the first year after stroke. DESIGN: Prospective cohort study. SUBJECTS: One hundred patients with a first-ever ischemic stroke admitted to a rehabilitation centre. METHODS: Assessment of upper extremity dexterity, motor power and selfcare function using the Motor Assessment Scale (MAS), Upper Extremity Motor Index (UEMI) and Modified
Barthel Index (MBI) respectively. RESULTS: Eighteen percent, 25.5% and 31.6% of patients recovered limb dexterity at 3, 6 and 12 months after stroke respectively. Patients who recovered dexterity late (≥6 months after stroke) were significantly younger with lower rehabilitation admission UEMI scores than those who recovered dexterity early. The UEMI score was the most significant correlate of limb dexterity at all follow up periods. Recovery of limb dexterity at 12 months was predicted by UEMI (OR 1.54, 95% CI 1.13-2.10) and MBI (OR 1.03, 95% CI 1.00-1.07) scores on admission to rehabilitation. CONCLUSIONS: In this study, 31.6% of patients recovered upper extremity dexterity at 12 months after stroke. Although late recovery of dexterity occurs only in a small proportion of patients, this finding is still pertinent given the significant impact of dexterity on upper limb and selfcare function.

Title: Effect of computer-based cognitive rehabilitation (CBCR) for people with stroke: A systematic review and meta-analysis.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(359-368), 10538135
Author(s): Cha, Yu-Jin, Kim, Hee

Abstract: OBJECTIVE: We conducted a systematic review and meta-analysis to identify the effect of computer-based cognitive rehabilitation (CBCR) on improving cognitive functions in patients with stroke. METHODS: Researchers performed a literature search using computerized databases such as the Cochrane Database, EBSCO (CINAHL), PsycINFO, PubMed and Web of Science. The following keywords were used: stroke, computer-based, cognitive rehabilitation, and others. The methodological quality was evaluated. Statistical heterogeneity and standardized mean difference were used to compute the overall effect size and that of subgroups. Also publication bias of the selected studies was analysed. RESULTS: Twelve studies met the inclusion criteria including a total of 461 stroke survivors. Among studies, six RCT studies were rated as high methodological quality. Overall effect size was medium 0.54, and the 95% confidence interval was 0.33-0.74. The effect sizes of acute and chronic phase of stroke were both 0.54. They can be interpreted as medium effect size and were statistically significant. The statistical heterogeneity and publication bias were not significant. CONCLUSION: The present study provides evidence that CBCR is effective on improving cognitive function after stroke. We recommend conducting meta-analysis on subgroups of CBCR programs in further studies.

Title: Changes of plantar pressure distributions following open and closed kinetic chain exercise in patients with stroke.

Citation: NeuroRehabilitation, 01 February 2013, vol./is. 32/2(385-390), 10538135
Author(s): Lee, Na Kyung, Kwon, Jung Won, Son, Sung Min, Nam, Seok Hyun, Choi, Yong Won, Kim, Chung Sun

Abstract: OBJECTIVE: The aim of this study is to investigate whether progressive resistive training with closed-kinetic chain (CKC) and open-kinetic chain (OKC) exercises could change plantar pressure distribution during walking in patients with stroke. METHODS: Thirty-nine stroke patients were recruited and randomly divided into a CKC exercise group (n = 13), an OKC exercise group (n = 13), and a control group (n = 13). Both CKC and OKC exercise groups performed their own respective training programs 5 times per week for 6 weeks, whereas no training was done in the control group. Barefoot plantar pressure distribution was measured during walking in terms of contact area (CA), peak contact force (PCF), and contact impulse (CI) on each of three foot regions (i.e. forefoot (FF), midfoot (MF), and hindfoot (HF)). RESULTS: In the CKC exercise group, there were significant changes in only the CA and PCF of HF. In the OKC exercise and control groups, no significant differences were found for all variables of plantar pressure distributions. CONCLUSION: We found that resistive training with closed kinetic chain exercises could be an effective treatment method for improving normal gait patterns in stroke patients. These findings may be attributed to the fact that CKC exercise induced use of the ankle and knee muscles and provided repetitive sensory input from the affected foot.

Title: Preferences for rehabilitation service delivery: A comparison of the views of patients, occupational therapists and other rehabilitation clinicians using a discrete choice experiment.
Abstract: Background/aim Understanding the differences in preferences of patients and occupational therapists for the way in which rehabilitation services are provided is important. In particular, it is unknown whether new approaches to rehabilitation such as high intensity therapy and virtual reality programs are more or less acceptable than traditional approaches. Methods A discrete choice experiment was conducted to assess and compare the acceptability of these new approaches, relative to other characteristics of the rehabilitation program. The study included patients participating in a stroke or medical rehabilitation program (n = 100), occupational therapists (n = 23) and other clinicians (n = 91) working in rehabilitation settings at three hospitals in South Australia. Data were analysed using a conditional (fixed-effects) logistic regression model. Results The model coefficient attached to very high intensity therapy programs (defined as six hours per day) was negative and highly statistically significant for both patients and therapists indicating aversion for this option. In addition, other rehabilitation clinicians and patients were strongly averse to the use of virtual reality programs (as evidenced by the negative and highly statistically significant coefficient attached to this attribute for both groups) relative to occupational therapists. Conclusion The comparison of the views of patients, occupational therapists and other rehabilitation clinicians revealed some differences. All participants (patients and clinicians) showed an inclination for programs that resulted in the best recovery. However, patients expressed stronger preferences than clinicians for traditional therapy approaches. As a group, occupational therapists were most likely to accept approaches such as virtual reality suggesting changes away from traditional delivery methods will be more readily integrated into practice.

Title: There is no evidence to support or refute the effectiveness of memory rehabilitation on memory function or functional abilities in people with multiple sclerosis.

Citation: Australian Occupational Therapy Journal, 01 April 2013, vol./is. 60/2(148-149), 00450766
Author(s): Lovarini, Meryl, Gullo, Hannah

Title: Computer-based cognitive exercises plus group classes for generalisation improved verbal memory and use of memory strategies by people with multiple sclerosis.

Citation: Australian Occupational Therapy Journal, 01 April 2013, vol./is. 60/2(150-151), 00450766
Author(s): Scanlan, Justin Newton, Preston, Jenny

Title: Studies probe restoring speech in persons with chronic stroke-related aphasia.

Citation: JAMA: Journal of the American Medical Association, 27 March 2013, vol./is. 309/12(1217-1218), 00987484
Author(s): Slomski, Anita

Title: Non-pharmacological interventions for preventing secondary vascular events after stroke or transient ischemic attack.

Citation: Cochrane Database of Systematic Reviews, 01 March 2013, vol./is. /3(0-), 1469493X
Author(s): MacKay-Lyons M, Thornton M, Ruggles T, Che M

Abstract: Background: Stroke is the second leading cause of death among adults worldwide. Individuals who have suffered a stroke are at high risk of having another stroke likely leading to greater disability and institutionalization. Non-pharmacological interventions may have a role to play in averting a second stroke. Objectives: To determine the effectiveness of multi-modal programs of non-pharmacological interventions compared with usual care in preventing secondary vascular events and reducing vascular risk factors after stroke or transient ischemic attack (TIA). Search methods: We searched the Cochrane Stroke Group Trials Register (September 2012); The Cochrane Library databases CENTRAL, CDSR, DARE, HTA and NHS EED (2012 Issue 2); MEDLINE (1950 to February 2012); EMBASE (1974 to February 2012); CINAHL
(1982 to February 2012); SPORTDiscus (1800 to February 2012); PsycINFO (1887 to February 2012) and Web of Science (1900 to February 2012). We also searched PEDro, OT Seeker, OpenSIGLE, REHABDATA and Dissertation Abstracts (February 2012). In an effort to identify further published, unpublished and ongoing trials we searched trials registers, scanned reference lists, and contacted authors and researchers. Selection criteria: We included randomized controlled trials evaluating the use of non-pharmacological interventions that included components traditionally used in cardiac rehabilitation (CR) programs in adults with stroke or TIA. Primary outcomes were a cluster of second stroke or myocardial infarction or vascular death. Secondary outcomes were (1) secondary vascular events: second stroke, myocardial infarction, and vascular death, as well as (2) vascular risk factors: blood pressure, body weight, lipid profile, insulin resistance and tobacco use. We also recorded adverse events such as exercise-related musculoskeletal injuries or cardiovascular events. Data collection and analysis: Two review authors independently scanned titles and abstracts and independently screened full reports of studies that were potentially relevant. At each stage, we compared results. The two review authors resolved disagreements through discussion or by involving a third review author. Main results: We identified one study, involving 48 participants, of a 10-week CR program for patients post-stroke that met the inclusion criteria. The results of this completed pilot trial show that patients post-stroke had significantly greater improvement in cardiac risk score in the CR group (13.4 p.m. 10.1 to 12.4 p.m. 10.5, P value < 0.05) when compared with usual care (9.4 p.m. 6.7 to 15.0 p.m. 6.1, P value < 0.05). In addition, five trials, which are ongoing, will likely meet the inclusion criteria for this review once completed. Authors' conclusions: There is limited applicable evidence. Therefore, no implications for practice can be drawn. Further research is required and several trials are underway, the findings of which are anticipated to contribute to the body of evidence.

Full Text: Available from Wiley in Cochrane Library, The

Title: The Minimeter - Enabling communication technology for people with severe brain injuries.

Citation: Technology & Disability, 01 February 2013, vol./is. 25/1(37-47), 10554181
Author(s): Breidegard, Björn

Abstract: BACKGROUND: The Minimeter is a communication tool developed for people with severe brain injuries (almost no mobility, limited gaze control and eye blink ability, without speech, and with varying degrees of cognitive difficulties). Previously, they have not been able to communicate reliably even on a yes- or no-level. OBJECTIVE: To capture even minor movements intended for interaction and communication (starting at a yes-no level) with the environment or people around and to yield immediate and intuitive feedback to the users to help them develop both their abilities and ambitions. METHODS: Longitudinal iterative design of the appropriate communication technology in close collaboration with the intended users in their situated everyday life. RESULTS: During more than 13 years about 30 people with severe brain injuries have achieved new communication abilities through The Minimeter. The tool and its manual, utilizing the parallel advancements in overall computer and game technology, are now freely available as specially designed software for a standard PC with a web camera or accelerometer. CONCLUSIONS: The Minimeter opens up for learning and hope and provides earlier inaccessible possibilities for users with severe cognitive and mobile limitations to express and realize their needs, wishes and sometimes even dreams.

Title: Addressing the work performance of individuals with mild stroke.

Citation: Work & Industry Special Interest Section Quarterly, 01 March 2013, vol./is. 27/1(1-4), 10937145
Author(s): Fowler, Coleen

Full Text: Available from ProQuest in Work and Industry Special Interest Section Quarterly / American Occupational Therapy Association
Title: Perceived value of stroke outcome measures across the post-acute care continuum: A qualitative case study.

Citation: Physiotherapy Theory & Practice, 01 April 2013, vol./is. 29/3(202-210), 09593985
Author(s): Danzl, Megan M., Hunter, Elizabeth G.

Title: Stroke survivors’ experiences of the fundamentals of care: A qualitative analysis.

Citation: International Journal of Nursing Studies, 01 March 2013, vol./is. 50/3(392-403), 00207489
Author(s): Kitson, Alison L., Dowd, Clare, Calabrese, oseph D., Lecock, Louise, Athlin, Åsa Muntiln

Abstract: Background: Managing the fundamentals of care (e.g. elimination, personal hygiene, eating,) needs to be more explicitly addressed within the patient-centred care discourse. It is not possible to investigate issues of patient dignity and respect without acknowledging these basic physical needs. While the literature on caring for people with a stroke is extensive, no studies to date have described stroke survivors’ experiences of all of these fundamentals during the in-hospital phase of their care. Design: Secondary analysis of qualitative data grounded in interpretative phenomenology Participants and settings: Fifteen stroke survivors with in-hospital experiences from multiple healthcare settings and healthcare professionals across the United Kingdom were included. Method: A secondary thematic analysis of primary narrative interview data from stroke survivors. Results: Survivors of strokes have vivid and often distressing recollections of their experiences of the fundamentals of care. For every description of a physical need (elimination, eating and drinking, personal hygiene) there where lucid accounts of the psychosocial and emotional impact (humiliation, distress, lack of dignity, recovery, confidence). Linked to the somatic and emotional dimensions were narratives around the relationship between the patient and the carer (nurse, doctor, allied health professional). Positive recollections of the fundamentals of care were less evident than more distressing experiences. Consistent features of positive experiences included: stroke survivors describing how the physical, psychosocial and relational dimensions of care were integrated and coordinated around their particular need. They reported feeling involved in setting achievable targets to regain control of their bodily functions and regain a sense of personal integrity and sense of self. Sociological constructs such as biographical disruption and loss of self were found to be relevant to stroke survivors’ experiences. Indeed, such constructs may be more linked to the disruption of such fundamental activities rather than the experience of the illness itself. Conclusions: We recommend more practical and integrated approaches be taken around understanding and meeting the physical, psychosocial and relational needs of patients in hospital which could lead to more patient-centred care experiences. These three dimensions need to co-exist in every care episode. More exploration is required to identify the common fundamentals of care needs of patients regardless of illness experience.

Title: Non pharmacological interventions for spasticity in multiple sclerosis.

Citation: Cochrane Database of Systematic Reviews, 01 February 2013, vol./is. /2(0-), 1469493X
Author(s): Amatya B, Khan F, La Mantia L, Demetrios M, Wade DT

Abstract: BACKGROUND: Spasticity is commonly experienced by people with multiple sclerosis (MS), and it contributes to overall disability in this population. A wide range of non pharmacological interventions are used in isolation or with pharmacological agents to treat spasticity in MS. Evidence for their effectiveness is yet to be determined. OBJECTIVES: To assess the effectiveness of various non pharmacological interventions for the treatment of spasticity in adults with MS. SEARCH METHODS: A literature search was performed using the Specialised Register of the Cochrane Multiple Sclerosis and Rare Diseases of the Central Nervous System Review Group on using the Cochrane MS Group Trials Register which among other sources, contains CENTRAL, Medline, EMBASE, CINAHL, LILACS, PEDRO in June 2012. Manual searching in the relevant journals and screening of the reference lists of identified studies and reviews were carried out. Abstracts published in proceedings of conferences were also scrutinised. SELECTION CRITERIA: Randomised controlled trials (RCTs) that reported non pharmacological intervention/s for treatment of spasticity in adults with MS and compared them with some form of control intervention (such as sham/placebo interventions or lower level or different types of intervention, minimal intervention, waiting list controls or no treatment; interventions given in different settings), were included. DATA COLLECTION
AND ANALYSIS: Three review authors independently selected the studies, extracted data and assessed the methodological quality of the studies using the Grades of Recommendation, Assessment, Development and Evaluation (GRADE) tool for best-evidence synthesis. A meta-analysis was not possible due to methodological, clinical and statistical heterogeneity of included studies. MAIN RESULTS: Nine RCTs (N = 341 participants, 301 included in analyses) investigated various types and intensities of non-pharmacological interventions for treating spasticity in adults with MS. These interventions included: physical activity programmes (such as physiotherapy, structured exercise programme, sports climbing); transcranial magnetic stimulation (Intermittent Theta Burst Stimulation (iTBS), Repetitive Transcranial Magnetic Stimulation (rTMS)); electromagnetic therapy (pulsed electromagnetic therapy; magnetic pulsing device), Transcutaneous Electrical Nerve Stimulation (TENS); and Whole Body Vibration (WBV). All studies scored 'low' on the methodological quality assessment implying high risk of bias. There is 'low level' evidence for physical activity programmes used in isolation or in combination with other interventions (pharmacological or non-pharmacological), and for repetitive magnetic stimulation (iTBS/rTMS) with or without adjuvant exercise therapy in improving spasticity in adults with MS. No evidence of benefit exists to support the use of TENS, sports climbing and vibration therapy for treating spasticity in this population. AUTHORS' CONCLUSIONS: There is 'low level' evidence for non pharmacological interventions such as physical activities given in conjunction with other interventions, and for magnetic stimulation and electromagnetic therapies for beneficial effects on spasticity outcomes in people with MS. A wide range of non pharmacological interventions are used for the treatment of spasticity in MS, but more robust trials are needed to build evidence about these interventions. 

Full Text: Available from Wiley in Cochrane Library, The
Title: Poststroke spasticity: Treating to the disability.
Citation: Neurology, 16 January 2013, vol./is. 80/3(0-), 00283878
Author(s): Brainin, Michael

Full Text:
Available from Ovid in Neurology

Title: The global burden of stroke and need for a continuum of care.
Citation: Neurology, 16 January 2013, vol./is. 80/3 Suppl 2(0-7), 00283878
Author(s): Norrving B, Kissela B

Abstract: Until 4 decades ago, the rates of stroke in low- and middle-income countries were considerably lower than those in more economically robust countries. In the intervening years, however, the rates of stroke in places such as southern India and rural South Africa have approximately doubled, whereas stroke rates in more economically developed nations have decreased. What is far more striking is that rates of disability and mortality arising from stroke are at least 10 times greater in medically underserved regions of the world compared with the most developed nations. The causes of these disparities are clear: above all, there is a lack of primary care treatment to screen patients for stroke risk and to mitigate risk factors. In addition, the lack of access to common drugs and basic medical equipment, as well as the lack of poststroke follow-up programs, rehabilitation, and secondary stroke prevention, means that individuals who would, in countries with better medical care, likely recover from stroke, instead have high rates of death and disability. Several global organizations, most notably the World Health Organization, have formulated and begun to implement public health programs to address these underserved regions. Their success depends on the support and expansion of these efforts so that short-term response to stroke, long-term stroke prevention and care, and screening and treatment of poststroke disabilities can be improved in underserved regions and the human and economic burden on these populations can be minimized.

Full Text:
Available from Ovid in Neurology

Title: Toward an epidemiology of poststroke spasticity.
Citation: Neurology, 16 January 2013, vol./is. 80/3 Suppl 2(0-), 00283878
Author(s): Wissel J, Manack A, Brainin M

Abstract: Poststroke spasticity (PSS)-related disability is emerging as a significant health issue for stroke survivors. There is a need for predictors and early identification of PSS in order to minimize complications and maladaptation from spasticity. Reviewing the literature on stroke and upper motor neuron syndrome, spasticity, contracture, and increased muscle tone measured with the Modified Ashworth Scale and the Tone Assessment Scale provided data on the dynamic time course of PSS. Prevalence estimates of PSS were highly variable, ranging from 4% to 42.6%, with the prevalence of disabling spasticity ranging from 2% to 13%. Data on phases of the PSS continuum revealed evidence of PSS in 4% to 27% of those in the early time course (1-4 weeks poststroke), 19% to 26.7% of those in the postacute phase (1-3 months poststroke), and 17% to 42.6% of those in the chronic phase (>3 months poststroke). Data also identified key risk factors associated with the development of spasticity, including lower Barthel Index scores, severe degree of paresis, stroke-related pain, and sensory deficits. Although such indices could be regarded as predictors of PSS and thus enable early identification and treatment, the different measures of PSS used in those studies limit the strength of the findings. To optimize evaluation in the different phases of care, the best possible assessment of PSS would make use of a combination of indicators for clinical impairment, motor performance, activity level, quality of life, and patient-reported outcome measures. Applying these recommended measures, as well as increasing our knowledge of the physiologic predictors of PSS, will enable us to perform clinical and epidemiologic studies that will facilitate identification and early, multimodal treatment.
Title: The interaction between neuropsychological and motor deficits in patients after stroke.

Citation: Neurology, 16 January 2013, vol./is. 80/3 Suppl 2(0 -), 00283878

Author(s): Chen C, Leys D, Esquenazi A

Abstract: Stroke survivors typically experience varying degrees of motor and neuropsychological deficits. Although these deficits are frequently treated as separate entities in the cognitive and physical rehabilitation settings, there is considerable interaction between them. Cognitive-motor interference, for example, refers to the simultaneous performance of cognitive and motor functions that results in diminished execution of one or both of the tasks. Studies have demonstrated that when performing dual tasks, poststroke patients will typically favor the cognitive function over the motor task. Furthermore, only certain cognitive functions will interfere with motor abilities, while the intensity of the motor task may magnify the detriment in dual-task performance. Moreover, mood disorders, particularly depression, have also been shown to interact substantially with physical functioning. Consequently, poststroke patients with depression experience greater reductions in their activities of daily living and worse rates of recovery. Recent neuroimaging studies suggest an association between white matter hyperintensities and both motor and neuropsychological poststroke deficits. The relationship between spasticity and cognition deficits needs to be further explored with regard to the deleterious consequences of poststroke spasticity on quality of life and overall motor function. These insights, among others, contribute to a growing, if embryonic, body of knowledge about poststroke motor/cognitive interaction that will ultimately inform developments in treatment and rehabilitation.

Title: Assessing and treating functional impairment in poststroke spasticity.

Citation: Neurology, 16 January 2013, vol./is. 80/3 Suppl 2(0 -), 00283878

Author(s): Sunnerhagen KS, Olver J, Francisco GE

Abstract: Poststroke spasticity (PSS) is associated with significant consequences for a patient’s functional status and quality of life. Nonetheless, no uniform definition of spasticity exists that can be utilized across clinical research settings, and difficulties in validating proper assessment tools—both clinical and nonclinical—complicate the ability to evaluate and appropriately treat spasticity. Consequently, the current state of defining, assessing, and treating spasticity requires improved consistency and ongoing validation as clinical research efforts advance. When selecting clinical measures for PSS assessment (e.g., the Modified Ashworth, Tone Assessment, Tardieu, Modified Rankin, and Disability Assessment scales, and the Barthel Index), it is critical to understand the levels of impairment or functional limitation each tool assesses as well as their benefits and limitations. The use of quantitative methods—such as electrophysiologic, biomechanical, and imaging techniques—adjunctive to traditional clinical measures also allows for sensitivity in quantifying the abnormal muscle activity associated with spasticity. In addition to accurate evaluation and assessment of PSS, realistic treatment goal setting for patients as well as family members and caregivers is critical, because it promotes motivation and cooperation as well as proper management of expectations and can favorably affect recovery. Goal attainment scaling has been shown to help organize, focus, and clarify the aims of treatment, thereby enhancing the PSS rehabilitative process. Furthermore, integration of therapeutic modalities and treatment strategies, including both nonpharmacologic intervention and pharmacotherapy, is also important for improved outcomes.

Title: Poststroke spasticity: Sequelae and burden on stroke survivors and caregivers.
Abstract: Among the estimated 20% to 40% of stroke survivors who develop spasticity, the burden of this condition on patients, caregivers, and society is substantial. Stroke survivors with spasticity may experience reductions in their ability to perform activities of daily living and in their health-related quality of life. The occurrence of spasticity in stroke survivors may also result in an increased burden on their caregivers, who exhibit poorer physical and emotional health as compared with the general population. The responsibilities that caregivers have to the stroke survivor—in terms of providing medical care, protecting from falls, and assisting with feeding and hygiene, among other tasks of daily living—must be balanced with their responsibilities to other family members and to themselves. Caregivers of stroke survivors often report a feeling of confinement with little opportunity for relief, and although social support can be helpful, it is frequently limited in its availability. In terms of the socioeconomic burden of spasticity after stroke, recent data point to a 4-fold increase in health care costs associated with stroke survivors with spasticity compared with stroke survivors without spasticity. Thus, it is important to reduce the burden of spasticity after stroke. Consequently, effective spasticity treatment that reduces spasticity and the level of disability experienced by stroke survivors will likely increase their functioning and their health-related quality of life and will also result in a diminished burden on their caregivers.

Full Text: Available from Ovid in Neurology

Title: Cognitive impairment has a strong relation to nonsomatic symptoms of depression in relapsing-Remitting multiple sclerosis.

Abstract: It is unclear how cognitive impairment in multiple sclerosis (MS) is influenced by physical disability, fatigue, and depression. Our aim was to identify the strongest clinical predictors for cognitive impairment in relapsing-remitting MS (RRMS) patients. The clinical risk factors included in the analysis were physical disability (EDSS), fatigue (FSS), the somatic and nonsomatic components of depression (BDI), disease progression rate [Multiple Sclerosis Severity Score (MSSS)], and psychotropic medication. Cognitive impairment had a prevalence of 30.5% in patients affecting preferentially attention, executive functions, processing speed and visual perception/organization. MSSS was not associated with cognitive impairment, depression, or fatigue. In regression models, cognitive performance was best predicted by the nonsomatic symptoms of depression alone or in combination with physical disability. Exclusion of patients with any psychotropic medication did not influence the results. Our results underscore the importance of evaluating depressive symptoms when suspecting cognitive impairment in patients with RRMS. (PsycINFO Database Record (c) 2013 APA, all rights reserved) (journal abstract)

Sources Used:
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