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### Literature search results

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### Search details

The evidence for occupational therapy and brain injury.

### Resources searched

NHS Evidence; TRIP Database; Cochrane Library; BNI; CINAHL; EMBASE; MEDLINE; Google Scholar

**Database search terms:** brain adj2 injur*; exp BRAIN INJURIES; aneurysm*; CEREBRAL ANEURYSM; (brain OR cerebrall) adj2 aneurysm*; brain adj2 (hemorrhage* OR haemorrhage*); INTRACRANIAL HEMORRHAGE; BRAIN DISEASES, METABOLIC, INBORN; HYPOXIA-ISCHEMIA, BRAIN; HYPOXIA, BRAIN; brain adj2 (tumor* OR tumour*); stroke*; exp CEREBROVASCULAR DISORDERS; "cerebrovascular accident**"; "cerebrovascular disorder**"; "transient ischemic attack**"; "transient ischaemic attack**"; hydrocephalus; HYDROCEPHALUS; encephalitis; ENCEPHALITIS; TBI; ABI; "occupational therap**"; exp OCCUPATIONAL THERAPY; "systematic review**"; meta-analysis*; metaanalysis*; SYSTEMATIC REVIEW; META ANALYSIS; "randomi* controlled" adj0 (trial* OR study OR studies); RANDOMIZED CONTROLLED TRIALS; adult*; exp ADULTS; aged; geriatric; senior*; elder*; "older person**"; "older people"

**Evidence search string(s):** ("brain injury" OR aneurysm OR stroke OR hydrocephalus OR encephalitis OR "brain tumour" OR "brain haemorrhage") "occupational therapy"

**Google search string(s):** (~"brain injury" OR ~aneurysm OR ~stroke OR ~hydrocephalus OR ~encephalitis OR ~"brain tumour" OR ~"brain haemorrhage") (~"systematic review" OR ~metaanalysis OR ~"randomised controlled trial") ~"occupational therapy" --child

### Summary

There are so many different types of brain injury that a generic search for occupational therapy and brain injury retrieves well over one thousand results. For this reason I have limited the search to systematic reviews and randomised controlled trials as these are at
level 1 of the evidence hierarchy. Most of the studies relate to stroke. If you also want to include other clinical trials, or studies, including case studies, it would be better to search for a specific type of brain injury.

Guidelines

**American Heart Association**

AHA scientific statement: Comprehensive overview of nursing and interdisciplinary care of the acute ischemic stroke patient 2009

**European Federation of Neurological Societies**

Ischaemic stroke and transient ischaemic attack 2011

A systematic review of nine trials comparing occupational therapy (OT) based ADL therapy with usual care reported improved functional outcomes in the active intervention group [525]. The data do not justify conclusions on the optimal mode of OT delivery. A meta-analysis of community-based OT trials found improved performance on ADL measures. The greatest effects were seen in older patients and with the use of targeted interventions [526]. Specific leisure-based OT therapies did not translate into improved ADL. A trial of providing OT intervention to care home residents post-stroke found less functional deterioration in the active intervention group [527]. No controlled trial data describe the effectiveness of occupational therapy beyond 1 year after stroke.

**NICE**

CG162 Stroke rehabilitation 2013

Improving outcomes for people with brain and other CNS tumours - the manual 2006

**Royal College of Physicians**

National Clinical Guidelines for Stroke 2012

See page 145 for concise guidelines for occupational therapists.

**SIGN**

Guideline 130 Brain injury rehabilitation in adults 2013

Guideline 118: Management of patients with stroke: rehabilitation, prevention and management of complications, and discharge planning 2011

Guideline 119: Management of patients with stroke: dysphagia 2010

Evidence-based reviews

**Cochrane Database of Systematic Reviews**

Cognitive rehabilitation for executive dysfunction in adults with stroke or other adult non-progressive acquired brain damage 2013

We identified insufficient high-quality evidence to reach any generalised conclusions about the effect of cognitive rehabilitation on executive function, or other secondary outcome measures. Further high-quality research comparing cognitive rehabilitation with no intervention, placebo or sensorimotor interventions is recommended.

Interventions for treating pain and disability in adults with complex regional pain syndrome 2013

We found low quality evidence that a daily course of the drug ketamine delivered intravenously may effectively reduce pain, although it is also associated with a variety of
side effects. We found low quality evidence that the bisphosphonate class of drugs, calcitonin and programmes of graded motor imagery may be effective for CRPS, and that mirror therapy may be effective in people who develop CRPS after suffering a stroke. Low quality evidence suggested that physiotherapy and occupational therapy did not lead to clinically important benefits at one year follow up, and that blocking sympathetic nerves with local anaesthetic is not effective. There is moderate quality evidence that an intravenous regional block using the drug guanethidine is not effective and may be associated with complications.

For a range of other interventions we found only very low quality evidence or no evidence at all. No conclusions should be drawn regarding the value of these interventions based on this level of evidence.

Based on the existing evidence it is difficult to draw firm conclusions as to which therapies should be offered to patients with CRPS. Better quality research is vital to reduce uncertainty in this area and is necessary before confident recommendations can be made.

Multidisciplinary rehabilitation following botulinum toxin and other focal intramuscular treatment for post-stroke spasticity 2013

At best there was 'low level' evidence for the effectiveness of outpatient MD rehabilitation in improving active function and impairments following BoNT for upper limb spasticity in adults with chronic stroke. No trials explored the effect of MD rehabilitation on 'passive function' (caring for the affected limb), caregiver burden, or the individual's priority goals for treatment. The optimal types (modalities, therapy approaches, settings) and intensities of therapy for improving activity (active and passive function) in adults and children with post-stroke spasticity, in the short and longer term, are unclear. Further research is required to build evidence in this area.

Occupational therapy for care home residents with stroke 2013

We found insufficient evidence to support or refute the efficacy of occupational therapy interventions for improving, restoring or maintaining independence in ADL for stroke survivors residing in care homes. The effectiveness of occupational therapy for the population of stroke survivors residing in care homes remains unclear, and further research in this area is warranted.

Occupational therapy for cognitive impairment in stroke patients 2010

The effectiveness of occupational therapy for cognitive impairment post-stroke remains unclear. The potential benefits of cognitive retraining delivered as part of occupational therapy on improving basic daily activity function or specific cognitive abilities, or both, of people who have had a stroke cannot be supported or refuted by the evidence included in this review. More research is required.

Occupational therapy for patients with problems in activities of daily living after stroke 2006

Patients who receive occupational therapy interventions are less likely to deteriorate and are more likely to be independent in their ability to perform personal activities of daily living. However, the exact nature of the occupational therapy intervention to achieve maximum benefit needs to be defined.

Database of Abstracts of Reviews of Effects

Modified constraint-induced movement therapy versus traditional rehabilitation in patients with upper-extremity dysfunction after stroke: a systematic review and meta-analysis 2011

There was fairly strong evidence that, compared with traditional rehabilitation, modified constraint-induced movement therapy could reduce disability after stroke and improve upper extremity function and spontaneity during movement time. There was limited evidence of effect on kinematic variables.

Rehabilitation treatments for adults with behavioral and psychosocial disorders following acquired brain injury: a systematic review 2010

Results indicated that the greatest overall improvement in psychosocial functioning was achieved by comprehensive-holistic rehabilitation programmes and can be considered a treatment standard for adults with behavioural and psychosocial disorders following
acquired brain injury

Virtual reality in stroke rehabilitation: a systematic review of its effectiveness for upper limb motor recovery 2007

There was limited but encouraging evidence that VR is effective in post-stroke rehabilitation of the upper limb.

NIHR Health Technology Assessment programme

Rehabilitation of older patients: day hospital compared with rehabilitation at home. A randomised controlled trial 2009

...neither the new evidence provided by this RCT nor the existing evidence from previous trials suggests any advantage or disadvantage of providing rehabilitation in the day hospital or providing it in the patient’s own home.

Repetitive functional task practice 2008

The evidence suggests that some form of RFTP can be effective in improving lower limb function at any time after stroke, but that the duration of intervention effect is unclear. There is as yet insufficient good-quality evidence to make any firm recommendations for upper limb interventions. If task-specific training is used, adverse effects should be monitored. While the effectiveness of RFTP is relatively modest, this sort of intervention appears to be cost-effective.

Other reviews

Effectiveness of Multidisciplinary Rehabilitation Services in Postacute Care: State-of-the-Science. A Review 2007

Given the limitations and paucity of systematic reviews, information from carefully designed nonrandomized studies could be used to complement randomized controlled trials in the study of the effectiveness of postacute rehabilitation. Consequently, a stronger evidence base would become available with which to inform policy decisions, guide the use of services, and improve patient access and outcomes.

Systematic reviews identify important methodological flaws in stroke rehabilitation therapy primary studies : Review of reviews

Reviews showed that primary studies had problems with randomization, allocation concealment, and blinding. Baseline comparability, adverse events, and cointervention or contamination were not consistently assessed. Blinding of patients and providers was often not feasible and was not evaluated as a source of bias.

Examining the evidence on neuromuscular electrical stimulation for swallowing: a meta-analysis 2007

This preliminary meta-analysis revealed a small but significant summary effect size for transcutaneous NMES for swallowing. Because of the small number of studies and low methodological grading for these studies, caution should be taken in interpreting this finding. These results support the need for more rigorous research in this area.

Published research

1. Occupational therapy predischarge home visits for patients with a stroke (HOVIS): results of a feasibility randomized controlled trial.

Author(s) Drummond, Aer, Whitehead, P, Fellows, K, Sprigg, N, Sampson, Cj, Edwards, C, Lincoln, Nb

Citation: Clinical Rehabilitation, 01 May 2013, vol./is. 27/5(387-397), 02692155

Publication Date: 01 May 2013

Source: CINAHL

**Author(s)** Takebayashi, Takashi, Koyama, Tetsuo, Amano, Satoru, Hanada, Keisuke, Tabusadani, Mitsuru, Hosomi, Masashi, Marumoto, Kohei, Takahashi, Kayoko, Domen, Kazuhisa

**Citation:** Clinical Rehabilitation, 01 May 2013, vol./is. 27/5(418-426), 02692155

**Publication Date:** 01 May 2013

**Source:** CINAHL

3. Interventions for treating pain and disability in adults with complex regional pain syndrome.

**Author(s)** O’Connell NE, Wand BM, McAuley J, Marston L, Moseley GL

**Citation:** Cochrane Database of Systematic Reviews, 01 April 2013, vol./is. /4(0-), 1469493X

**Publication Date:** 01 April 2013

**Abstract:** Background:

**Source:** CINAHL

Available in fulltext from Cochrane Library, The at Wiley

4. Insights into upper limb kinematics and trunk control one year after task-related training in chronic post-stroke individuals.

**Author(s)** Thielman, Greg

**Citation:** Journal of Hand Therapy, 01 April 2013, vol./is. 26/2(156-161), 08941130

**Publication Date:** 01 April 2013

**Source:** CINAHL

5. Effects of primary caregiver participation in vestibular rehabilitation for unilateral neglect patients with right hemispheric stroke: A randomized controlled trial

**Author(s)** Dai C.-Y., Huang Y.-H., Chou L.-W., Wu S.-C., Wang R.-Y., Lin L.-C.

**Citation:** Neuropsychiatric Disease and Treatment, April 2013, vol./is. 9/(477-484), 1176-6328;1178-2021 (06 Apr 2013)

**Publication Date:** April 2013

**Abstract:** Introduction: The current study aims to investigate the effects of primary caregiver participation in vestibular rehabilitation (VR) on improving the measures of neglect, activities of daily living (ADL), balance, and falls of unilateral neglect (UN) patients. Methods: This study is a single-blind randomized controlled trial. Both experimental (n = 24) and control groups (n = 24) received conventional rehabilitation. The experimental group undertook VR for a month. During the first and second weeks, a registered nurse trained the experimental group in VR. The primary caregivers in the experimental group supervised and guided their patients in VR during the third and fourth weeks. The outcome measures were neglect, ADL, balance, and falls. Results: The two groups of UN patients showed a significant improvement in neglect, ADL, and balance over time. Based on the generalized estimating equations model, an interaction was observed between groups and times. Significant interactions were observed between the VR group at days 14 and 28 in the areas of neglect, ADL, and balance. No significant difference was observed between the two groups in the number of falls. Conclusion: Neglect, ADL, and balance among UN patients with right hemispheric stroke can be improved through the participation of primary caregivers in VR. Trained informal caregivers were recommended to provide VR guidance
6. Systematic review on the effectiveness of mirror therapy in training upper limb hemiparesis after stroke

Author(s) Toh S.F.M., Fong K.N.K.

Citation: Hong Kong Journal of Occupational Therapy, December 2012, vol./is. 22/2(84-95), 1569-1861;1876-4398 (December 2012)

Publication Date: December 2012

Abstract: Objective/Background: This study aims to review the current evidence on effectiveness of mirror therapy (MT) in improving motor function of the hemiplegic upper limb (UL) among the adult stroke population in the last 12 years. Methods: A systematic review of studies published in English from 1999 to 2011, retrieved from four electronic databases MEDLINE, Cumulative Index to Nursing and Allied Health Literature, Sage Online, and ScienceDirect, was performed. Only articles focusing on the effects of MT to train UL motor function were included. The methodological quality of the studies was appraised based on the design and Physiotherapy Evidence Database Scale. Results: Of the 1,129 articles, nine (six randomised controlled trials and three case reports) were reviewed. The majority of the studies were heterogeneous in design. The review indicated that the strength of current evidence for the use of MT with the stroke population is moderate and seemed to benefit participants with subacute stroke. Little is known about its long-term sustainability, the right target group of the stroke population, and the optimal time to start intervention. Conclusion: More research is needed to determine the optimal dose of therapy, optimal time to start this intervention, and the right target group. Accordingly, no firm conclusions can now be drawn on the effectiveness of MT until more evidence is present. Copyright 2012, Elsevier (Singapore) Pte. Ltd. All rights reserved.

Source: EMBASE

7. Do pre-discharge home visits by an occupational therapist reduce strain for carers of patients who have had a stroke?

Author(s) Edwards C., Whitehead P., Drummond A.

Citation: International Journal of Stroke, December 2012, vol./is. 7/(37), 1747-4930 (December 2012)

Publication Date: December 2012

Abstract: Introduction: It is believed pre-discharge home visits for older adults are important to carers (Atwal et al. 2008). Moreover a recent UK stroke survey reported that 77% of occupational therapists complete a pre-discharge home visit with stroke patients to address carer concerns (Drummond et al. 2012). However there remains a dearth of research evaluating if pre-discharge home visits reduce caregiver strain. Method: Data was collected as part of HOVIS (Home visits after stroke study): a feasibility randomised controlled trial of pre-discharge home visits versus a hospital interview with an occupational therapist. Caregiver strain index (CSI) was obtained one month after discharge from the main carer of the patient with a stroke. Results: Forty-one carers completed the CSI at one month follow up, of which 22 (54%) were carers of patients who had a stroke and received a home visit. Twenty-eight (68.3%) were the patients spouse, 10 (24.4%) were a son/daughter and three (7.3%) were another relative. Carers reported feeling less strained (mean = 4.50, SD = 3.02) when their relative received a home visit compared to the relatives of those who received a hospital interview (mean = 6.00, SD = 2.98). However the study was under powered and these results were not statistically significant. Conclusion: Pre-discharge occupational therapy home visits may reduce strain for carers of patients with a stroke. However a larger trial is necessary to evaluate this further.
8. Effectiveness of a video-based therapy program at home after acute stroke: A randomized controlled trial

Author(s) Redzuan N.S., Engkasan J.P., Mazlan M., Freddy Abdullah S.J.
Citation: Archives of Physical Medicine and Rehabilitation, December 2012, vol./is. 93/12(2177-2183), 0003-9993;1532-821X (December 2012)
Publication Date: December 2012
Abstract: Redzuan NS, Engkasan JP, Mazlan M, Freddy Abdullah SJ. Effectiveness of a video-based therapy program at home after acute stroke: a randomized controlled trial. Objective: To evaluate the effectiveness of an intervention using video to deliver therapy at home for patients with stroke. Design: Randomized controlled trial. Setting: The neurology ward and rehabilitation medicine department of a tertiary hospital. Participants: Patients with stroke (N=90). There were 44 patients in the intervention group and 46 patients in the control group. Interventions: The intervention group received a combination of at-home rehabilitation guided by a digital videodisk containing therapy techniques and twice-monthly outpatient follow-up for 3 months. The conventional therapy group (control) attended weekly outpatient therapy sessions. Main Outcome Measures: The primary outcome measure was the modified Barthel Index (MBI) score. The secondary measures were the incidence of poststroke complications and the Caregiver Strain Index. Results: At 3 months, there were no significant differences with regard to the number of patients with improved MBI score, complication rate, or Caregiver Strain Index score between the 2 groups. Both groups had significant increases in the MBI score at 3 months (P<.001 for both groups). Regression analysis revealed that only stroke severity significantly influenced the MBI score (P<.001), complication rate (P<.01), and caregiver stress level (P<.05). Conclusions: Video-based therapy at home for post-acute stroke patients is safe, does not negatively impact independence, and is not stressful for caregivers. 2012 American Congress of Rehabilitation Medicine.

Source: EMBASE

9. Is modified constraint-induced movement therapy more effective than bimanual training in improving arm motor function in the subacute phase post stroke? A randomized controlled trial.

Author(s) Brunner, Iris Charlotte, Skouen, Jan Sture, Strand, Liv Inger
Citation: Clinical Rehabilitation, 01 December 2012, vol./is. 26/12(1078-1086), 02692155
Publication Date: 01 December 2012
Source: CINAHL

10. A randomized controlled trial of Cognitive Sensory Motor Training Therapy on the recovery of arm function in acute stroke patients.

Author(s) Chanubol, Ratanapat, Wongphaet, Parit, Chavanich, Napapit, Werner, Cordula, Hesse, Stefan, Bardeleben, Anita, Merholz, Jan
Citation: Clinical Rehabilitation, 01 December 2012, vol./is. 26/12(1096-1104), 02692155
Publication Date: 01 December 2012
Source: CINAHL


Author(s) Krawczyk, Maciej, Sidaway, Marta, Radwanska, Anna, Zaborska, Joanna, Ujma, Renata, Czlonkowska, Anna

**Author(s)** Smania, Nicola, Gandolfi, Marialuisa, Paolucci, Stefano, Iosa, Marco, Ianes, Patrizia, Recchia, Serena, Giovanzana, Chiara, Molteni, Franco, Avesani, Renato, Di Paolo, Pietro, Zaccala, Massimo, Agostini, Michela, Tassorelli, Cristina, Fiaschi, Antonio, Primon, Daniela, Ceravolo, Maria Grazia, Farina, Simona

**Citation:** Neurorehabilitation & Neural Repair, 01 November 2012, vol./is. 26/9(1035-1045), 15459683

**Publication Date:** 01 November 2012

**Source:** CINAHL

Abstract: Objective: To conduct a systematic review and meta-analysis of the available evidence on the effectiveness of constraint-induced movement therapy (CIMT) in the hemiparetic upper extremity (UE) among individuals who were more than 6 months post stroke. Methods: A literature search of multiple databases (PubMed, CINAHL, and EMBASE) was conducted to identify articles published in the English language up to and including July 2012. Studies were included for review if (1) ≥50% of the sample had sustained a stroke, (2) the research design was a randomized controlled trial (RCT), (3) the mean time since stroke was ≥6 months for both the treated and control groups, (4) the treatment group received CIMT, (5) the control group received a form of traditional rehabilitation, and (6) functional improvement was assessed both pre and posttreatment. Methodological quality was assessed using the PEDro tool with a score out of 10. Results: Sixteen RCTs (PEDro scores 4-8) met inclusion criteria and included a pooled sample size of 572 individuals with a mean age of 58.2 years (range, 30-87). The meta-analysis revealed a significant treatment effect on the amount of use and quality of movements subscales of the Motor Activity Log (P < .001, for both), Fugl-Meyer Assessment (P = .014), and Action Research Arm Test (P = .001); however, there was no significant treatment effect demonstrated by the Wolf Motor Function Test (P = .120) or FIM (P = .070). Conclusions: CIMT to improve UE function is an appropriate and beneficial therapy for individuals who have sustained a stroke more than 6 months previously.

**Source:** CINAHL


**Author(s)** McIntyre, Amanda, Viana, Ricardo, Janzen, Shannon, Mehta, Swati, Pereira, Shelialah, Teasell, Robert

**Citation:** Topics in Stroke Rehabilitation, 01 November 2012, vol./is. 19/6(499-513), 10749357

**Publication Date:** 01 November 2012

**Abstract:** Objective: To conduct a systematic review and meta-analysis of the available evidence on the effectiveness of constraint-induced movement therapy (CIMT) in the hemiparetic upper extremity (UE) among individuals who were more than 6 months post stroke. Methods: A literature search of multiple databases (PubMed, CINAHL, and EMBASE) was conducted to identify articles published in the English language up to and including July 2012. Studies were included for review if (1) ≥50% of the sample had sustained a stroke, (2) the research design was a randomized controlled trial (RCT), (3) the mean time since stroke was ≥6 months for both the treated and control groups, (4) the treatment group received CIMT, (5) the control group received a form of traditional rehabilitation, and (6) functional improvement was assessed both pre and posttreatment. Methodological quality was assessed using the PEDro tool with a score out of 10. Results: Sixteen RCTs (PEDro scores 4-8) met inclusion criteria and included a pooled sample size of 572 individuals with a mean age of 58.2 years (range, 30-87). The meta-analysis revealed a significant treatment effect on the amount of use and quality of movements subscales of the Motor Activity Log (P < .001, for both), Fugl-Meyer Assessment (P = .014), and Action Research Arm Test (P = .001); however, there was no significant treatment effect demonstrated by the Wolf Motor Function Test (P = .120) or FIM (P = .070). Conclusions: CIMT to improve UE function is an appropriate and beneficial therapy for individuals who have sustained a stroke more than 6 months previously.

**Source:** CINAHL


**Author(s)** Stevenson, Ted, Thalman, Leyda, Christie, Heather, Poluha, William

**Citation:** Physiotherapy Canada, 01 October 2012, vol./is. 64/4(397-413), 03000508

**Publication Date:** 01 October 2012

**Abstract:** Purpose: To summarize the existing literature examining constraint-induced movement therapy (CIMT), relative to dose-matched control interventions, for upper-limb dysfunction in adult survivors of stroke. Methods: A literature search of multiple databases (PubMed, CINAHL, and EMBASE) was conducted to identify articles published in the English language up to and including July 2012. Studies were included for review if (1) ≥50% of the sample had sustained a stroke, (2) the research design was a randomized controlled trial (RCT), (3) the mean time since stroke was ≥6 months for both the treated and control groups, (4) the treatment group received CIMT, (5) the control group received a form of traditional rehabilitation, and (6) functional improvement was assessed both pre and posttreatment. Methodological quality was assessed using the PEDro tool with a score out of 10. Results: Sixteen RCTs (PEDro scores 4-8) met inclusion criteria and included a pooled sample size of 572 individuals with a mean age of 58.2 years (range, 30-87). The meta-analysis revealed a significant treatment effect on the amount of use and quality of movements subscales of the Motor Activity Log (P < .001, for both), Fugl-Meyer Assessment (P = .014), and Action Research Arm Test (P = .001); however, there was no significant treatment effect demonstrated by the Wolf Motor Function Test (P = .120) or FIM (P = .070). Conclusions: CIMT to improve UE function is an appropriate and beneficial therapy for individuals who have sustained a stroke more than 6 months previously.

**Source:** CINAHL
(UL) dysfunction in adult survivors of stroke. Methods: CINAHL, Cochrane Library, Embase, NARIC/CIRRIE- Rehabdata, PEDro, PubMed, Scopus, and Web of Science were searched from their inception to February 2011. Trial quality was described using the PEDro scale. The findings were summarized with meta-analysis. Results: For the 22 trials identified, the mean (SD) PEDro score was 6.4 (1.2). Meta-analysis showed CIMT to be superior to dosematched interventions based on indicators of UL motor capacity (15 trials, n = 432; standardized mean difference [SMD] = 0.47, 95% CI, 0.27-0.66) and UL ability (14 trials, n = 352; SMD = 0.80, 95% CI, 0.57-1.02); Functional Independence Measure scores (6 trials, n = 182; mean difference [MD] = 5.05, 95% CI, 2.23-7.87); and Motor Activity Log scores (Amount of Use: 12 trials, n = 318; MD = 1.05, 95% CI, 0.85-1.24; Quality of Movement: 11 trials, n = 330; MD = 0.89, 95% CI, 0.69-1.08). Conclusions: Compared to control interventions of equal duration and dose, CIMT produced greater improvements in a variety of indicators of UL function in adult survivors of a stroke with residual movement of their upper limb.

Source: CINAHL
Available in fulltext from Physiotherapy Canada at EBSCOhost

15. Ecosystem focused therapy in poststroke depression: a preliminary study.

Author(s) Alexopoulos GS, Wilkins VM, Marino P, Kanellopoulos D, Reding M, Sirey JA, Raue PJ, Ghosh S, O'Dell MW, Kiosses DN
Citation: International Journal of Geriatric Psychiatry, October 2012, vol./is. 27/10(1053-60), 0885-6230;1099-1166 (2012 Oct)
Publication Date: October 2012
Abstract: OBJECTIVE: Poststroke depression (PSD) occurs in the context of abrupt, often catastrophic disability that finds the patient and his or her family unprepared. We developed the ecosystem focused therapy (EFT), a systematic intervention aimed to increase the PSD patient's and his or her ecosystem's abilities to address the "psychosocial storm" of PSD and utilize available treatments effectively and efficiently. This is a preliminary study of its efficacy.DESIGN: A total of 24 PSD patients were randomly assigned to receive weekly sessions of EFT or a comparison condition consisting of systematic Education on Stroke and Depression and their treatment for 12weeks.RESULTS: Ecosystem Focused Therapy may be more efficacious than Education on Stroke and Depression in reducing depressive symptoms and signs, in leading to a higher remission rate, and in ameliorating disability in PSD. Reduction of disability in the early part of the trial mediated later improvement in depressive symptomatology. Similarly, reduction in depressive symptoms and signs early on mediated later improvement in disability.CONCLUSION: These encouraging findings require replication. Beyond its potential direct benefits in PSD, EFT may provide an appropriate context for efficient and timely administration of pharmacotherapy and of physical, speech, and occupational therapy thus maximizing their efficacy. Copyright 2012 John Wiley & Sons, Ltd.
Source: Medline


Author(s) Bai Y, Hu Y, Wu Y, Zhu Y, He Q, Jiang C, Sun L, Fan W
Citation: Journal of Clinical Neuroscience, October 2012, vol./is. 19/10(1376-9), 0967-5868;1532-2653 (2012 Oct)
Publication Date: October 2012
Abstract: To investigate whether early rehabilitation has a positive impact on the recovery of the activities of daily living and motor function after intracerebral hemorrhagic stroke, 364 patients with hemorrhagic stroke were selected and randomly divided into a rehabilitation group and a control group. The rehabilitation group underwent a standardized, three-stage rehabilitation program. The control group was treated with standard hospital ward, internal medical intervention. The simplified Fugl-Myere assessment scale (FMA) and Modified
Barthel Index (MBI) were administered at various time points. The magnitude of improvement was significantly higher in the rehabilitation group than in the control group for both the FMA (p<0.05) and MBI scores (p<0.05). The greatest improvement was observed in the first month post-stroke. Thus, our study shows that early rehabilitation can significantly improve the daily activities and motor functions of patients with stroke.

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Source: Medline

17. Improving functional status in rehabilitation

Author(s) Martin F.

Citation: European Geriatric Medicine, September 2012, vol./is. 3/(S26), 1878-7649 (September 2012)

Publication Date: September 2012

Abstract: Improving functional status and quality of life are the key purposes of rehabilitation in clinical practice with older people. Rehabilitation implies that the individual has lost some function which may be recoverable. This may happen gradually and present as increased need for help in a community dwelling person. Or there may be a clear precipitating event such as an injury, acute illness or surgery. The precipitating event will influence the nature of the change in the individual. The impact on function is mediated through a variety of pathways. The WHO International Classification of Functioning, Disability and Health (ICF, http://www.who.int/classifications/icf/en/) provides a model. This clarifies that age-related frailty as well as specific diseases act to produce impairments in organs, systems or integration. These impact capacity, and the consequences of reduced capacity on social participation and quality of life depends upon psychosocial and environmental factors. For example, an acute stroke, causing a major neurologically based impairment may result in a sudden loss of function, causing reduced capacity. The extent of functional recovery is significantly affected by the spontaneous or induced reversal of neurological impairment. For survivors, it then becomes dependent on the amelioration of the slower additional impairments in nutrition, ventilatory capacity, aerobic capacity. and finally, fulfilling the functional recovery also depends on enhancement of psychosocial factors of mood, confidence and social engagement. In contrast, in a frail individual with a range of subcritical impairments, a relatively minor acute illness may precipitate functional loss and the recovery of this function is dependent upon a broader approach from the start. In people with chronic diseases, such as COPD, the major obvious impairment only explains part of the variance in capacity. Frailty, deconditioning, mood, cognition, social support and other factors are also important. So in most clinical situations, rehabilitation requires a combination of approaches including those that may be specific to the condition, e.g. stroke, and non-specific approaches that address these other issues. So, rehabilitation after hip fracture needs good surgery but also management of delirium. Rehabilitation after stroke needs management of depression and support for carers at home. Planning a rehabilitation programme therefore requires recognition of frailty and diseases and their impact on impairment. But this is insufficient without understanding: which of the impairments are limiting capacity and; what are the psychosocial and environmental factors either enhancing or impeding the effects of this capacity loss on overall activity (social participation). The choice of skills needed depends on this analysis. Most patients will need a multidisciplinary approach but a holistic approach incorporates the right inputs at the right stage of the patients recovery. For some patients, an early medical diagnosis is crucial to plan rehabilitation, but for others, it is the general recognition of frailty impairments, which is needed. For some the physiotherapist is more important, but for others it is the adjustment of the environment or provision of new techniques by an occupational therapist, which makes the difference. Increasing self-efficacy and relationships is also important for a fuller recovery of the person. I will review systematic reviews of the clinical trial evidence for specific examples of rehabilitation, and show examples of the importance of a holistic approach.

Source: EMBASE

18. Bobath Concept versus constraint-induced movement therapy to improve arm
19. Modified Constraint-Induced Movement Therapy Improved Upper Limb Function in Subacute Poststroke Patients: A Small-Scale Clinical Trial.

**Author(s)** Treger, Iuly, Aidinof, Lena, Lehrer, Hiela, Kalichman, Leonid

**Citation:** Topics in Stroke Rehabilitation, 01 July 2012, vol./is. 19/4(287-293), 10749357

**Publication Date:** 01 July 2012

**Abstract:** Background: Constraint-induced movement therapy (CIMT) has been advocated as a means of facilitating motor function in poststroke patients; however, the evidence for its efficacy is controversial. Objective: To evaluate the effect of modified CIMT on improving paretic arm function in poststroke patients during a subacute rehabilitation period. Methods: A single-blinded randomized controlled trial was conducted at the Loewenstein Rehabilitation Hospital, Israel. Twenty-eight subacute stroke patients with arm paresis after a first ischemic stroke in the middle cerebral artery area were randomized into a modified CIMT or control group by a 1:2 ratio. The modified CIMT group received 1-hour daily physical rehabilitation sessions for 2 weeks. The unaffected arm was restrained during the sessions. Subjects were encouraged to wear a restrictive mitten up to 4 hours a day. The control group received similar intensive regular rehabilitation. Three upper limb function tests, developed for this study, were used as outcome measures. The subjects were asked to perform the following tasks, with the affected hand for 30 seconds: (1) transfer pegs from a saucer to a pegboard; (2) grasp, carry, and release a hard rubber ball; and (3) 'eating,' using a spoon to remove the jelly from the plate, bring it towards the mouth, and then place it on another plate. The number of repetitions in each test was recorded as an outcome. Results: The modified CIMT group showed significantly higher changes in all 3 tests compared to the standard rehabilitation group. Conclusion: Our study provides additional support for the use of modified CIMT during a subacute rehabilitation period of poststroke patients. CIMT may facilitate functional improvement of a plegic hand.

**Source:** CINAHL

20. A cluster randomised controlled trial of an occupational therapy intervention for residents with stroke living in UK care homes (OTCH): study protocol


**Citation:** BMC Neurology, July 2012, vol./is. 12/, 1471-2377 (09 Jul 2012)

**Publication Date:** July 2012

**Abstract:** Background: The occupational therapy (OT) in care homes study (OTCH) aims to investigate the effect of a targeted course of individual OT (with task training, provision of adaptive equipment, minor environmental adaptations and staff education) for stroke survivors living in care homes, compared to usual care. Methods/Design: A cluster randomised controlled trial of United Kingdom (UK) care homes (n = 90) with residents (n = 900) who have suffered a stroke or transient ischaemic attack (TIA), and who are not receiving end-of-life care. Homes will be stratified by centre and by type of care provided and randomised (50:50) using computer generated blocked randomisation within strata to receive either the OT intervention (3 months intervention from an occupational therapist) or control (usual care). Staff training on facilitating independence and mobility and the use of adaptive equipment, will be delivered to every home, with control homes receiving this after the 12 month follow-up. Allocation will be concealed from the independent assessors, but the treating therapists, and residents will not be masked to the intervention. Measurements are taken at baseline prior to randomisation and at 3, 6 and 12 months post randomisation.
The primary outcome measure is independence in self-care activities of daily living (Barthel Activities of Daily Living Index). Secondary outcome measures are mobility (Rivermead Mobility Index), mood (Geriatric Depression Scale), preference based quality of life measured from EQ-5D and costs associated with each intervention group. Quality adjusted life years (QALYs) will be derived based on the EQ-5D scores. Cost effectiveness analysis will be estimated and measured by incremental cost effectiveness ratio. Adverse events will be recorded. Discussion: This study will be the largest cluster randomised controlled trial of OT in care homes to date and will clarify the currently inconclusive literature on the efficacy of OT for stroke and TIA survivors residing in care homes. Trial registration: ISRCTN00757750. 2012 Sackley et al.; licensee BioMed Central Ltd.

Source: EMBASE
Available in fulltext from BMC Neurology at National Library of Medicine
Available in fulltext from BMC Neurology at EBSCOhost
Available in fulltext from BMC Neurology at BioMedCentral

21. Therapeutic application of high-frequency rTMS combined with intensive occupational therapy for pediatric stroke patients with upper limb hemiparesis: A case series study

Author(s) Niimi M., Takekawa T., Ito H., Kameda Y., Kakuda W., Abo M.

Citation: Neurorehabilitation and Neural Repair, July 2012, vol./is. 26/6(735-736), 1545-9683 (July-August 2012)

Publication Date: July 2012

Abstract: Background and Aims: Recently, several authors have reported that low-frequency repetitive transcranial magnetic stimulation (rTMS) applied to the non-lesional hemisphere significantly improved the motor function of the affected upper limb in adult stroke patients with hemiparesis. For pediatric stroke patients, beneficial effects of low-frequency rTMS has been already confirmed in a randomized controlled study. However, no report describing therapeutic application of high-frequency rTMS for this patient population has been published. As a case series study, therefore, we introduced high-frequency rTMS combined with intensive occupational therapy (OT) in two pediatric hemiparetic patients. Methods: Two pediatric patients with upper limb hemiparesis in their chronic phase of stroke were subjected (8-year-old right-handed boy and 9-year-old right-handed boy). In both of the patients, 22 treatment sessions of high-frequency rTMS combined with intensive OT were provided during 15-day hospitalization. The high-frequency rTMS was applied over the lesional motor cortex at the frequency of 10 Hz for 15 minutes in each session (1,500 pulses per session). One session of intensive OT consisted of 60-min one-on-one training and 60-min self-exercise. Motor function of the affected upper limb was serially evaluated with Fugl-Meyer Assessment (FMA), Wolf Motor Function Test (WMFT), Simple Test for Evaluating hand Function (STEF), and Ten-second Test. Results: Neither of the patients showed any adverse effect with the intervention. On some measures applied for this study, the improvement of motor function in the affected upper limb was found in both of the patients. In addition, they became able to use their affected upper limb for some activities of daily livings. Conclusions: Our proposed protocol featuring high-frequency rTMS and intensive OT was safe and feasible in two pediatric stroke patients. This protocol could be a novel intervention for upper limb hemiparesis after pediatric stroke.

Source: EMBASE

22. Constraint induced movement therapy (CIMT) for patients post acquired brain injury: Quantitative results from a clinical feasibility randomised controlled trial (RCT)

Author(s) Pedlow K., Lennon S., Wheatley-Smith L., Morris D., Caldwell S., Wilson C.

Citation: Neurorehabilitation and Neural Repair, July 2012, vol./is. 26/6(NP9-NP10), 1545-9683 (July-August 2012)
Publication Date: July 2012

Abstract: Background and Aims: Constraint Induced Movement Therapy (CIMT) is an evidence-based multi-component intervention which aims to promote upper limb (UL) hemiparesis recovery. Translation of CIMT from the laboratory to the clinical setting is currently limited therefore this feasibility RCT aimed to explore CIMT delivery within the clinical setting for participants 6 months-5 years post acquired brain injury (ABI), in comparison to an interdisciplinary UL rehabilitation programme. Methods: 21 participants (13 male: 8 female), 1 year 11 months (average) post ABI were recruited from an UL rehabilitation waiting list and randomly allocated into a CIMT or UL group. Main eligibility criteria ensured participants were aged >=18 years with UL therapy as their main treatment goal. Both groups received therapy for 1.5 hours, 5 days/week for 3 weeks (45minutes occupational therapy and 45minutes physiotherapy). A masked assessor completed outcomes at 3 time points using 2 primary measures: Motor Activity Log (MAL) and the Graded Wolf Motor Function Test (GWMFT) plus a range of secondary measures. An ANOVA between and within group analysis was completed. Results: Overall using CIMT clinically proved to be feasible when using an interdisciplinary approach. The amount and quality of UL movement in group 1 improved significantly by the MAL amount (p=0.024; median 1.79) and how well scales (p=0.099; median 1.78). Group 1 also displayed a trend towards a greater yet non significant improvement in the GWMFT, EuroQol health index and Stroke self efficacy questionnaire. Post 3 month results are currently being analysed. Conclusions: Overall CIMT appears feasible in the clinical setting for patients 6 months to 5 years post ABI. Group 1 demonstrated that CIMT can significantly improve the amount and quality of the affected upper limb movement irrelevant of the time post injury. A larger scale clinical RCT should be completed to confirm results.

Source: EMBASE

23. Comparison of Brunnstrom movement therapy and Motor Relearning Program in rehabilitation of post-stroke hemiparetic hand: a randomized trial.

Author(s) Pandian S, Arya KN, Davidson EW

Citation: Journal of Bodywork & Movement Therapies, July 2012, vol./is. 16/3(330-7), 1360-8592;1532-9283 (2012 Jul)

Publication Date: July 2012

Abstract: BACKGROUND: Motor recovery of the hand usually plateaus in chronic stroke patients. Various conventional and contemporary approaches have been used to rehabilitate the hand post-stroke. However, the evidence for their effectiveness is still limited.OBJECTIVE: To compare the hand therapy protocols based on Brunnstrom approach and motor relearning program in rehabilitation of the hand of chronic stroke patients.METHODOLOGY: Design: Randomized trial. Setting: Outpatients attending the occupational therapy department of a rehabilitation institute. Subjects: 30 post-stroke subjects (35.06+/−14.52 months) were randomly assigned into two equal groups (Group A and Group B), Outcome Measures: Brunnstrom recovery stages of hand (BRS-H), Fugl-Meyer assessment: wrist and hand (FMA-WH). Intervention: Group A received Brunnstrom hand manipulation (BHM). BHM is the hand treatment protocol of the Brunnstrom movement therapy, which uses synergies and reflexes to develop voluntary motor control. Group B received the Motor Relearning Program (MRP) based hand protocol. MRP is the practice of specific motor skills, which results in the ability to perform a task. Active practice of context-specific motor task such as reaching and grasping helps regain the lost motor functions.RESULTS: Both the therapy protocols were effective in rehabilitation of the hand (BRS-H; p=0.003 to 0.004, FMA-WH; p<0.001). However, the results were statistically significant in favor of group A undergoing BHM for FMA-WH (p<0.004) and FMA item VIII (hand motor recovery) (p<0.033).CONCLUSION: BHM was found to be more effective than MRP in rehabilitation of the hand in chronic post-stroke patients. Copyright 2011 Elsevier Ltd. All rights reserved.

Source: Medline

24. Combined central and peripheral stimulation to facilitate motor recovery after stroke: the effect of number of sessions on outcome.
BACKGROUND: Proof-of-principle studies have demonstrated transient beneficial effects of transcranial direct current stimulation (tDCS) on motor function in stroke patients, mostly after single treatment sessions.

OBJECTIVE: To assess the efficacy of multiple treatment sessions on motor outcome.

METHODS: The authors examined the effects of two 5-day intervention periods of bihemispheric tDCS and simultaneous occupational/physical therapy on motor function in a group of 10 chronic stroke patients.

RESULTS: The first 5-day period yielded an increase in Upper Extremity Fugl-Meyer (UE-FM) scores by 5.9 +/- 2.4 points (16.6% +/- 10.6%). The second 5-day period resulted in further meaningful, although significantly lower, gains with an additional improvement of 2.3 +/- 1.4 points in UE-FM compared with the end of the first 5-day period (5.5% +/- 4.2%). The overall mean change after the 2 periods was 8.2 +/- 2.2 points (22.9% +/- 11.4%).

CONCLUSION: The results confirm the efficacy of bihemispheric tDCS in combination with peripheral sensorimotor stimulation. Furthermore, they demonstrate that the effects of multiple treatment sessions in chronic stroke patients may not necessarily lead to a linear response function, which is of relevance for the design of experimental neurorehabilitation trials.

Source: Medline

25. A randomized controlled trial comparing 2 interventions for visual field loss with standard occupational therapy during inpatient stroke rehabilitation

Author(s) Modden C., Behrens M., Damke I., Eilers N., Kastrup A., Hildebrandt H.

Citation: Neurorehabilitation and Neural Repair, June 2012, vol./is. 26/5(463-469), 1545-9683;1552-6844 (June 2012)

Publication Date: June 2012

Abstract: Background and Purpose. Compensatory and restorative treatments have been developed to improve visual field defects after stroke. However, no controlled trials have compared these interventions with standard occupational therapy (OT). Methods. A total of 45 stroke participants with visual field defect admitted for inpatient rehabilitation were randomized to restorative computerized training (RT) using computer-based stimulation of border areas of their visual field defects or to a computer-based compensatory therapy (CT) teaching a visual search strategy. OT, in which different compensation strategies were used to train for activities of daily living, served as standard treatment for the active control group. Each treatment group received 15 single sessions of 30 minutes distributed over 3 weeks. The primary outcome measures were visual field expansion for RT, visual search performance for CT, and reading performance for both treatments. Visual conjunction search, alertness, and the Barthel Index were secondary outcomes. Results. Compared with OT, CT resulted in a better visual search performance, and RT did not result in a larger expansion of the visual field. Intragroup pre-post comparisons demonstrated that CT improved all defined outcome parameters and RT several, whereas OT only improved one. Conclusions. CT improved functional deficits after visual field loss compared with standard OT and may be the intervention of choice during inpatient rehabilitation. A larger trial that includes lesion location in the analysis is recommended. The Author(s) 2012.

Source: EMBASE

26. A lifestyle intervention as supplement to a physical activity programme in rehabilitation after stroke: a randomized controlled trial

Author(s) Lund A., Michelet M., Sandvik L., Wyller T., Sveen U.

Citation: Clinical rehabilitation, June 2012, vol./is. 26/6(502-512), 1477-0873 (Jun 2012)

Publication Date: June 2012

Abstract: To evaluate the effectiveness of lifestyle group intervention on well-being.
A randomized controlled trial. Senior centres in the community. Of 204 stroke survivors screened, 99 (49%) were randomized three months after stroke whereby 86 (87%) participants (mean (SD) age 77.0 (7.1) years) completed all assessments (39 in the intervention group and 47 in the control group). A lifestyle course in combination with physical activity (intervention group) compared with physical activity alone (control group). Both programmes were held once a week for nine months. The Short Form Questionnaire (SF-36), addressing well-being and social participation. Assessments were performed at baseline and at nine months follow-up. We found no statistically significant differences between the groups at the nine months follow-up in the SF-36. Adjusted mean differences in change scores in the eight subscales of SF-36 were; 'mental health' (+1.8, 95% confidence interval (CI) -4.0, +7.6), 'vitality' (-3.0, 95% CI -9.6, +3.6), 'bodily pain' (+3.3, 95% CI -7.8, +14.4), 'general health' (-1.6, 95% CI -8.4, +5.1), 'social functioning' (-2.5, 95% CI -12.8, +7.8), 'physical functioning' (+1.0, 95% CI -6.7, +8.6), 'role physical' (-7.1, 95% CI -22.7, +8.4), 'role emotional' (+11.8, 95% CI -4.4, +28.0). Improvements were seen in both groups, but no statistically significant differences were found in the intervention group compared to controls. An intervention comprising regular group-based activity with peers may be sufficient in the long-term rehabilitation after stroke.

Source: EMBASE

27. Botulinum toxin type A injection, followed by home-based functional training for upper limb hemiparesis after stroke

Author(s) Takekawa T., Kakuda W., Taguchi K., Ishikawa A., Sase Y., Abo M.

Citation: International journal of rehabilitation research. Internationale Zeitschrift für Rehabilitationsforschung. Revue internationale de recherches de readaptation, June 2012, vol./is. 35/2(146-152), 1473-5660 (Jun 2012)

Publication Date: June 2012

Abstract: Botulinum toxin type A (BoNT-A) has been reported to be an effective treatment for limb spasticity after stroke. However, the reduction in the spasticity after BoNT-A injection alone does not ensure an improvement in the active motor function of the affected limb. The aim of this study was to clarify the clinical effects of a BoNT-A injection, followed by home-based functional training on not only the passive but also the active motor function of the affected spastic upper limb in poststroke hemiparetic patients. Eighty poststroke patients with spastic upper limb hemiparesis were studied. The severity of hemiparesis was categorized as Brunnstrom stage of 3 for hand-fingers in all patients. BoNT-A (maximum dose of 240 U) was injected into the target muscles of the affected upper limb after a clinical evaluation using the modified Ashworth scale, range of motion, Fugl-Meyer Assessment, and the Wolf Motor Function Test. Following the injection, occupational therapists provided home-based functional training for each patient on a one-to-one basis. The follow-up evaluation was performed 4 weeks after the injection. A significant improvement was found in the modified Ashworth scale and range of motion. The changes in the Fugl-Meyer Assessment and the Wolf Motor Function Test indicated a significant improvement in the active motor function of the affected upper limb. In conclusions, our proposed protocol of a BoNT-A injection, followed by home-based functional training seems to have the potential to improve the active motor function of the affected upper limb after stroke, although the efficacy should be confirmed in a randomized-controlled trial.

Source: EMBASE


Author(s) Takekawa, Toru, Kakuda, Wataru, Taguchi, Kensuke, Ishikawa, Atsushi, Sase, Yousuke, Abo, Masahiro

Citation: International Journal of Rehabilitation Research, 01 June 2012, vol./is. 35/2(146-152), 03425282

Publication Date: 01 June 2012

Abstract: Botulinum toxin type A (BoNT-A) has been reported to be an effective treatment for limb spasticity after stroke. However, the reduction in the spasticity after BoNT-A
injection alone does not ensure an improvement in the active motor function of the affected limb. The aim of this study was to clarify the clinical effects of a BoNT-A injection, followed by home-based functional training on not only the passive but also the active motor function of the affected spastic upper limb in poststroke hemiparetic patients. Eighty poststroke patients with spastic upper limb hemiparesis were studied. The severity of hemiparesis was categorized as Brunnstrom stage of 3 for hand-fingers in all patients. BoNT-A (maximum dose of 240 U) was injected into the target muscles of the affected upper limb after a clinical evaluation using the modified Ashworth scale, range of motion, Fugl-Meyer Assessment, and the Wolf Motor Function Test. Following the injection, occupational therapists provided home-based functional training for each patient on a one-to-one basis. The follow-up evaluation was performed 4 weeks after the injection. A significant improvement was found in the modified Ashworth scale and range of motion. The changes in the Fugl-Meyer Assessment and the Wolf Motor Function Test indicated a significant improvement in the active motor function of the affected upper limb. In conclusions, our proposed protocol of a BoNT-A injection, followed by home-based functional training seems to have the potential to improve the active motor function of the affected upper limb after stroke, although the efficacy should be confirmed in a randomized-controlled trial. Botulinumtoxin Typ A (BoNT-A) ist Berichten zufolge eine effektive Behandlung der Spastizität der Extremitäten nach Schlaganfall. Die Reduktion der Spastizität nach BoNT-A-Injektion allein gewährleistet keine Besserung der aktiven motorischen Funktion der betroffenen Extremität. Mit Hilfe der vorliegenden Studie sollten die klinischen Auswirkungen einer BoNT-A-Injektion untersucht werden, gefolgt von einem Funktionstraining der passiven und der aktiven motorischen Funktion der betroffenen spastischen oberen Extremität bei hemiparetischen Patienten nach Schlaganfall. Dieses Training findet im häuslichen und privaten Umfeld statt. Untersucht wurden 80 Schlaganfallpatienten mit spastischer Hemiparese der oberen Extremität. Der Schweregrad der Hemiparese wurde bei allen Patienten als Brunnstrom-Stadium 3 für Hand und Finger bezeichnet. BoNT-A (Höchstdosis: 240 U) wurde nach einer klinischen Evaluierung unter Zuhilfenahme der modifizierten Ashworth-Skala sowie des Bewegungsausmaßes, Fugl-Meyer-Scores und motorischen Funktionstests nach Wolf in die Zielmuskeln der betroffenen oberen Extremität injiziert. Nach der Injektion wurde jeder Patient im häuslichen und privaten Umfeld mit einem gezielten ergotherapeutischen Funktionstraining behandelnt. Die Evaluierung bei der Nachsorgeuntersuchung erfolgte vier Wochen nach der Injektion. Bei der modifizierten Ashworth-Skala und dem Bewegungsausmaß wurde eine signifikante Besserung beobachtet. Die Änderungen beim Fugl-Meyer-Score und dem motorischen Funktionstest nach Wolf deuteten auf eine signifikante Verbesserung der aktiven motorischen Funktion der betroffenen oberen Extremität hin. Abschließend lässt sich sagen, dass unser vorgeschlagenes Protokoll einer BoNT-A-Injektion, gefolgt von einem Funktionstraining im häuslichen und privaten Umfeld die aktive motorische Funktion der betroffenen oberen Extremität nach Schlaganfall zu verbessern scheint. Die Effektstärke im Rahmen einer randomisierten Kontrollstudie sollte jedoch bestätigt werden. Se ha demostrado que el uso de la toxina botulínica tipo A (BoNT-A) constituye un tratamiento efectivo contra la espasticidad de los miembros tras un ictus. Sin embargo, la disminución de la espasticidad tras la inyección de BoNT-A no garantiza por sí sola la mejora de la función motora activa del miembro afectado. El objetivo de este estudio fue explicar los efectos clínicos de una inyección de BoNT-A, seguida por un entrenamiento funcional realizado en casa donde no solamente se trabajó la función motora pasiva, sino también la función motora activa del miembro superior espástico afectado en pacientes hemipárticos tras un ictus. Se estudiaron ocho pacientes que habían sufrido un ictus reciente con hemiparesia espástica del miembro superior. La gravedad de la hemiparesia con respecto a los dedos de la mano de todos los pacientes fue clasificada como perteneciente al estadio 3 de Brunnstrom. BoNT-A (dosis máxima de 240 U) se inyectó en los músculos objetivos del miembro superior afectado tras realizar una evaluación mediante la escala de Ashworth, el rango de movimiento, la puntuación Fugl-Meyer y la prueba de función motora de Wolf. Tras la inyección, los terapeutas ocupacionales prepararon un entrenamiento funcional individual que cada uno de los pacientes realizó en casa. Se llevó a cabo una evaluación 4 semanas después de la inyección, donde se observó una mejora significativa de la escala de Ashworth y del rango de movimiento. Los cambios en la puntuación Fugl-Meyer y en la prueba de función motora de Wolf indicaron una mejora significativa de la función motora activa del miembro superior afectado. Como conclusión, parece ser que el protocolo propuesto de inyección de BoNT-A seguido por un entrenamiento funcional realizado en casa posee un potencial de mejora de la función motora activa del miembro superior afectado tras un ictus, aunque su eficacia debería
confirmarse mediante un ensayo controlado aleatorio. La toxine botulinique de type A (BoNT-A) a été indiquée comme un traitement efficace pour la spasticité des membres après un accident cardio-vasculaire. Toutefois, la réduction de la spasticité après injection de BoNT-A ne suffit pas à elle seule à assurer une amélioration de la fonction motrice active du membre affecté. Cette étude avait pour objet de clarifier les effets cliniques d'une injection de BoNT-A, suivie par une rééducation fonctionnelle à domicile sur la fonction motrice non seulement passive, mais également active du membre supérieur concerné chez les patients hémiplegiques spastiques post AVC. Quatre-vingts patients post AVC souffrant d'hémiparésie spastique des membres supérieurs ont été étudiés. La gravité de l'hémiparésie a été classée comme une étape Brunnstrom de 3 pour les doigts de la main chez tous les patients. De la BoNT-A (une dose maximale de 240 U) a été injectée dans les muscles ciblés du membre supérieur atteint après une évaluation clinique utilisant l'échelle d'Ashworth modifiée, l'amplitude des mouvements, l'évaluation de Fugl-Meyer et le test de la fonction motrice de Wolf. Après l'injection, les ergothérapeutes ont assuré une rééducation fonctionnelle à domicile pour chaque patient sur une base individuelle. L'évaluation de suivi a été effectuée 4 semaines après l'injection. Une amélioration significative a été constatée dans l'échelle d'Ashworth modifiée et l'amplitude des mouvements. Les changements dans l'évaluation de Fugl-Meyer et le critère de fonction motrice de Wolf ont signalé une amélioration significative de la fonction motrice active du membre supérieur atteint après un AVC, bien que son efficacité doive être confirmée par un test contrôlé randomisé.

Source: CINAHL

29. Meaningful Task-Specific Training (MTST) for Stroke Rehabilitation: A Randomized Controlled Trial.

Author(s) Arya, Kamal Narayan, Verma, Rajesh, Garg, R.K., Sharma, V.P., Agarwal, Monika, Aggarwal, G.G.

Citation: Topics in Stroke Rehabilitation, 01 May 2012, vol./is. 19/3(193-211), 10749357

Publication Date: 01 May 2012

Abstract: Background/Objective: The upper extremity motor deficit is one of the functional challenges in post stroke patients. The objective of the present study was to evaluate the effectiveness of the meaningful task-specific training (MTST) on the upper extremity motor recovery during the subacute phase after a stroke. Method: This was a randomized, controlled, double-blinded trial in the neurology department of a university hospital and occupational therapy unit of a rehabilitation institute. A convenience sample of 103 people, 4 to 24 weeks (mean, 12.15 weeks) after the stroke, was randomized into 2 groups (MTST, 51; standard training group, 52). Subjects in the Brunnstrom stage of arm recovery of 2 to 5 were included in the study. Ninety-five participants completed the 8-week follow-up. Interventions: Participants were assigned to receive either the MTST or dose-matched standard training program based on the Brunnstrom stage and Bobath neurodevelopmental technique, 4 to 5 days a week for 4 weeks. Fugl-Meyer assessment (FMA), Action Research Arm Test (ARAT), Graded Wolf Motor Function Test (GWMFT), and Motor Activity Log (MAL) were outcome measures Results: The MTST group showed a positive improvement in the mean scores on the outcome measures at post and follow-up assessments in comparison to the control group. Further, statistically significant differences were observed in changes between the groups at post and follow-up assessment for FMA, ARAT, GWMFT, and MAL. Conclusion: The MTST produced statistically significant and clinically relevant improvements in the upper extremity motor recovery of the patients who had a subacute stroke.

Source: CINAHL


Author(s) Edwards, Dorothy F., Lang, Catherine E., Wagner, Joanne M., Birkenmeier, Rebecca, Dromerick, Alexander W.

Citation: Archives of Physical Medicine & Rehabilitation, 01 April 2012, vol./is. 93/4(660-
Abstract: Edwards DF, Lang CE, Wagner JM, Birkenmeier R, Dromerick AW. An evaluation of the Wolf Motor Function Test in motor trials early after stroke. Objective: To examine the internal consistency, validity, responsiveness, and advantages of the Wolf Motor Function Test (WMFT) and compare these results to the Action Research Arm Test (ARAT) in participants with mild to moderate hemiparesis within the first few months after stroke. Design: Data were collected as part of the Very Early Constraint-Induced Therapy for Recovery from Stroke (VECTORS) trial, an acute, single-blind randomized controlled trial of constraint-induced movement therapy. Subjects were studied at baseline (day 0), after treatment (day 14), and after 90 days (day 90) poststroke. Setting: Inpatient rehabilitation hospital; follow-up 3 months poststroke. Participants: Hemiparetic subjects (N=51) enrolled in the VECTORS trial. Intervention: None. Main Outcome Measures: At each time point, subjects were tested on (1) the WMFT and ARAT, (2) clinical measures of sensorimotor impairments, (3) reach and grasp movements performed in the kinematics laboratory, and (4) clinical measures of disability. Blinded raters performed all evaluations. Analyses at each time point included calculating effect size as indicators of responsiveness, and correlation analyses to examine relationships between WMFT scores and other measures. Results: The WMFT is internally consistent, valid, and responsive in the early stages of stroke recovery. Sensorimotor and kinematic measures of reach and grasp support the construct validity of the WMFT. Conclusions: In an acute stroke population, the WMFT has acceptable reliability, validity, and responsiveness to change over time. However, when compared with the ARAT, the higher training and testing burdens may not be offset by the relatively small psychometric advantages.

Source: CINAHL

31. Constraint-Induced Therapy With Trunk Restraint for Improving Functional Outcomes and Trunk-Arm Control After Stroke: A Randomized Controlled Trial.

Author(s) Wu, Ching-yi, Chen, Yi-an, Lin, Keh-chung, Chao, Ching-ping, Chen, Yu-ting

Citation: Physical Therapy, 01 April 2012, vol./is. 92/4(483-492), 00319023

Publication Date: 01 April 2012

Source: CINAHL

Available in fulltext from Physical Therapy at EBSCOhost

Available in fulltext from Physical Therapy at EBSCOhost

Available in fulltext from Physical Therapy at Highwire Press

32. Systematic review of supportive care needs in patients with primary malignant brain tumors

Author(s) Ford E., Catt S., Chalmers A., Fallowfield L.

Citation: Neuro-Oncology, April 2012, vol./is. 14/4(392-404), 1522-8517;1523-5866 (April 2012)

Publication Date: April 2012

Abstract: In adults, primary malignant brain tumors (PMBT) are rare, but they have a devastating impact and the chances for survival are limited. UK clinical guidance on supportive care for patients with brain and central nervous system tumors was published in 2006 and relied on very limited evidence. The current article reviews literature from 2005 through 2011 on the psychosocial and supportive needs of patients with PMBT and their families or caregivers. Searches were conducted in PubMed, Web of Science, Psychinfo, Cochrane, Scopus, ASSIA, and Sciedirect. The search initially yielded 6220 articles, of which 60 were found to be eligible (1). Eleven qualitative and 49 quantitative studies are reviewed here and mapped onto the structure of the existing UK clinical guidance. Studies suggest rates of depression and anxiety up to 48 in patients and up to 40 in caregivers, with many unmet needs and dissatisfaction with health care provider communication and information. Cognitive deficits increase as the disease progresses, hampering
communication and decision-making. A range of neurological and physical symptoms at the end of life need recognition. Some successful supportive and neuropsychological interventions are reported. Although the volume of available studies has increased since UK guidance, many remain observational in nature, with few trials of interventions. However, this review provides an up to date resource for clinicians involved with patients with PMBT, describing current knowledge on patients psychosocial needs, the type of care which has been found to be beneficial, and highlighting areas where more research needs to be done. 2012 The Author(s).

Source: EMBASE
Available in fulltext from Neuro-Oncology at Highwire Press
Available in fulltext from Neuro-Oncology at EBSCOhost
Available in fulltext from Neuro-Oncology at National Library of Medicine

33. A pilot cluster randomized controlled trial of structured goal-setting following stroke.

Author(s) Taylor WJ, Brown M, William L, McPherson KM, Reed K, Dean SG, Weatherall M

Citation: Clinical Rehabilitation, April 2012, vol./is. 26/4(327-38), 0269-2155;1477-0873 (2012 Apr)
Publication Date: April 2012

Abstract: OBJECTIVE: To determine the feasibility, the cluster design effect and the variance and minimal clinical importance difference in the primary outcome in a pilot study of a structured approach to goal-setting.DESIGN: A cluster randomized controlled trial.SETTING: Inpatient rehabilitation facilities.SUBJECTS: People who were admitted to inpatient rehabilitation following stroke who had sufficient cognition to engage in structured goal-setting and complete the primary outcome measure.INTERVENTIONS: Structured goal elicitation using the Canadian Occupational Performance Measure.MAIN MEASURES: Quality of life at 12 weeks using the Schedule for Individualised Quality of Life (SEIQOL-DW), Functional Independence Measure, Short Form 36 and Patient Perception of Rehabilitation (measuring satisfaction with rehabilitation). Assessors were blinded to the intervention.RESULTS: Four rehabilitation services and 41 patients were randomized. We found high values of the intraclass correlation for the outcome measures (ranging from 0.03 to 0.40) and high variance of the SEIQOL-DW (SD 19.6) in relation to the minimally importance difference of 2.1, leading to impractically large sample size requirements for a cluster randomized design.CONCLUSIONS: A cluster randomized design is not a practical means of avoiding contamination effects in studies of inpatient rehabilitation goal-setting. Other techniques for coping with contamination effects are necessary.

Source: Medline

34. Aspects affecting occupational therapists' reasoning when implementing research-based evidence in stroke rehabilitation.

Author(s) Kristensen HK, Borg T, Hounsgaard L

Citation: Scandinavian Journal of Occupational Therapy, March 2012, vol./is. 19/2(118-31), 1103-8128;1651-2014 (2012 Mar)
Publication Date: March 2012

Abstract: BACKGROUND: When implementing evidence-based practice in occupational therapy the investigation of clinical reasoning provides important information on research utilization.AIM: This study investigates aspects affecting occupational therapists' reasoning when implementing research-based evidence within stroke rehabilitation.METHODS: The study was based on a phenomenological hermeneutical and an action research approach in collaboration with three occupational therapy settings including 25 occupational therapists. Data collection consisted of 41 field observations, 14 individual interviews, and six focus-group interviews.RESULTS: New knowledge concerning the substantial influence of professional values in the occupational therapists' local cultures was indicated. It was of
importance that the therapists as a group are given the opportunity to explicit and critically appraise values and knowledge use in order to develop their practice knowledge and new skills. Moreover personal values and clinical experiences influenced clinical reasoning. Current knowledge of the importance of local cultures and leadership was reinforced.

CONCLUSION: The influence of professional values in the occupational therapists’ local cultures was a substantial factor in the implementation processes. In addition personal values and clinical experiences influenced professional decision-making. Furthermore, the study reinforced current knowledge of the importance of culture and leadership in implementation of research-based clinical guidelines.

Source: Medline

Available in fulltext from Scandinavian Journal of Occupational Therapy at the ULHT Library and Knowledge Services’ eJournal collection

35. Pilot Trial of Distributed Constraint-Induced Therapy With Trunk Restraint to Improve Poststroke Reach to Grasp and Trunk Kinematics.
Author(s) Wu, Ching-yi, Chen, Yi-an, Chen, Hsieh-ching, Lin, Keh-chung, Yeh, I-ling
Citation: Neurorehabilitation & Neural Repair, 01 March 2012, vol./is. 26/3(247-255), 15459683
Publication Date: 01 March 2012
Source: CINAHL

36. Development of a person-centred lifestyle intervention for older adults following a stroke or transient ischaemic attack.
Author(s) Lund, Anne, Michelet, Mona, Kjeken, Ingvild, Wyller, Torgeir Bruun, Sveen, Unni
Citation: Scandinavian Journal of Occupational Therapy, 01 March 2012, vol./is. 19/2(140-149), 11038128
Publication Date: 01 March 2012
Abstract: Background: Older adults with mild to moderate stroke or transient ischaemic attack often experience anxiety, depression and reduced social participation in their daily lives. Interventions addressing the long-term consequences of stroke are needed. Objective: To describe the process of developing a person-centred lifestyle intervention for older adults with stroke. Methods: The Canadian Occupational Performance Measure was used to develop the content of the intervention. Lifestyle groups were implemented at senior centres once a week for nine months. Content analysis was used to analyse the intervention content. Results: A total of 132 participants (median age 79 years, 55% women, 52% lived alone) were recruited from hospitals. The participants prioritized 392 occupational problems, mainly related to active recreation, household and community management, mobility, and socialization. The occupational issues were addressed in the group interventions. New themes also emerged in line with the participants’ choices through group discussions, such as information on stroke and prevention of new strokes, outdoor mobility and transportation, ‘brain use’ and memory. Conclusion: The study demonstrates the development of intervention following stroke, addressing its process, structure, and components. Whether the person-centred process increases the potential for enhancing participants’ social participation and well-being should be evaluated in future studies.
Source: CINAHL

Available in fulltext from Scandinavian Journal of Occupational Therapy at the ULHT Library and Knowledge Services’ eJournal collection
37. Barriers to the Implementation of Constraint-Induced Movement Therapy Into Practice.

**Author(s)** Viana, Ricardo, Teasell, Robert

**Citation:** Topics in Stroke Rehabilitation, 01 March 2012, vol./is. 19/2(104-114), 10749357

**Publication Date:** 01 March 2012

**Abstract:** Background and Purpose: Constraint-induced movement therapy (CIMT) has been studied for many years in the treatment of the hemiplegic upper extremity (UE). However, there has been limited adoption of the protocol in daily practice. Methods: In this article, we review the CIMT literature specifically for meta-analysis, randomized controlled trials (RCTs), recent case reports, case series, and pilot studies of CIMT in the adult poststroke population to identify barriers to implementation. Results: The following barriers have been identified: (a) limited generalizability, (b) resource intensity, (c) therapist factors, (d) patient factors, and (e) uncertainty regarding the emerging debate that the gains seen may be a result of intense, task-specific therapy focused on the use of the more affected UE and not specific to the protocol. Conclusions: CIMT has positive outcomes in the treatment of a select group of stroke survivors. Many national guidelines of stroke rehabilitation recommend that CIMT be used when appropriate, however adoption into practice has been limited. The issue of generalizability is being addressed by expanding protocol application to other populations. Resource intensity, with respect to cost and therapist time, is a major concern and has lead to the development of novel modes of service delivery. The benefit seen with CIMT may actually be the result of exposure to intense, task-specific therapy with a focus on the use of the more affected UE, but more research into this area is needed.

**Source:** CINAHL

38. The EXCITE Trial: Analysis of “Noncompleted” Wolf Motor Function Test Items.

**Author(s)** Wolf, Steven L., Thompson, Paul A., Estes, Emily, Lonergan, Timothy, Merchant, Rozina, Richardson, Natasha

**Citation:** Neurorehabilitation & Neural Repair, 01 February 2012, vol./is. 26/2(178-187), 15459683

**Publication Date:** 01 February 2012

**Source:** CINAHL

39. Impact of visual impairment assessment on functional recovery in stroke patients: a pilot randomized controlled trial... ...including commentary by Gall C and George S.

**Author(s)** Jarvis, Kathryn, Grant, Emily, Rowe, Fiona, Evans, Janet, Cristino-Amenos, Meritxell, Gall, Carolin, George, Stacey

**Citation:** International Journal of Therapy & Rehabilitation, 01 January 2012, vol./is. 19/1(11-22), 17411645

**Publication Date:** 01 January 2012

**Abstract:** Aim: To determine whether providing therapy staff with objective information regarding the nature of visual impairment enhances functional recovery of stroke survivors. Methods: A mixed methodology incorporated a pilot randomized controlled trial (RCT) and qualitative study. Patients presenting acutely with functional disability and suspected visual deficit, underwent visual assessment. Patients with visual impairment were recruited; all subjects received rehabilitation. The sample was randomized to group A (control) where details of visual assessment were withheld from therapy staff and group B (experimental) where details of visual assessment were disclosed. Functional measures (Functional Independent Measure, timed walk) were recorded at baseline and 6-week follow-up. Health professionals participated in a focus group to discuss the perceived influence of the additional visual assessment service on functional outcome. Findings: 64 patients were recruited over 18 months (group A=31; group B=33). Drop out resulted in 19 subjects in group A and 20 in group B for full analysis. Significant functional improvement was noted in
both groups, no significant difference was found between groups. Health professionals reported a perceived positive impact from the vision assessment service. Conclusions: Provision of visual assessment information did not influence functional recovery. Qualitative findings indicated perceived benefits from the provision of the vision assessment service.

Source: CINAHL
Available in fulltext from International Journal of Therapy and Rehabilitation at EBSCOhost

40. An early mobilization protocol successfully delivers more and earlier therapy to acute stroke patients: further results from phase II of AVERT.

Author(s) van Wijk R, Cumming T, Churilov L, Donnan G, Bernhardt J
Citation: Neurorehabilitation & Neural Repair, January 2012, vol./is. 26/1(20-6), 1545-9683:1552-6844 (2012 Jan)
Publication Date: January 2012
Abstract: BACKGROUND: The optimal physical therapy dose in acute stroke care is unknown. The authors hypothesized that physical therapy would be significantly different between treatment arms in a trial of very early and frequent mobilization (VEM) and that immobility-related adverse events would be associated with therapy dose. METHODS: This study was a single-blind, multicenter, randomized control trial. Patients admitted to a stroke unit <24 hours of stroke randomized to standard care (SC) or intervention, SC plus additional early out-of-bed therapy (VEM). Timing, amount, and type of therapy recorded throughout the trial. Adverse events were recorded to 3 months. RESULTS: A total of 71 patients (SC n = 33, VEM n = 38) received 788 therapy sessions in the first 2 weeks of stroke. Schedule (hours to first mobilization, dose per day, frequency and session duration) and nature (percentage out-of-bed activity) of therapy differed significantly between groups (P <= .001 for all components). Mobilization was earlier, happened on average 3 times per day in those receiving VEM, with the proportion of out-of-bed activity double in VEM session (median SC 42.5%, VEM 85.5%). SC consisted of 17 minutes of occupational and physiotherapy per day and was the same between groups. Number of immobility-related adverse events 3 months poststroke was not associated with therapy dose or frequency. CONCLUSIONS: The authors detailed usual care and intervention therapy provided to patients from admission to 14 days after stroke. The therapy schedule was markedly different in the intervention arm, but whether this schedule reduces complications or improves outcome is unknown.

Source: Medline

41. Virtual-reality balance training with a video-game system improves dynamic balance in chronic stroke patients.

Author(s) Cho KH, Lee KJ, Song CH
Citation: Tohoku Journal of Experimental Medicine, 2012, vol./is. 228/1(69-74), 0040-8727;1349-3329 (2012)
Publication Date: 2012
Abstract: Stroke is one of the most serious healthcare problems and a major cause of impairment of cognition and physical functions. Virtual rehabilitation approaches to postural control have been used for enhancing functional recovery that may lead to a decrease in the risk of falling. In the present study, we investigated the effects of virtual reality balance training (VRBT) with a balance board game system on balance of chronic stroke patients. Participants were randomly assigned to 2 groups: VRBT group (11 subjects including 3 women, 65.26 years old) and control group (11 subjects including 5 women, 63.13 years old). Both groups participated in a standard rehabilitation program (physical and occupational therapy) for 60 min a day, 5 times a week for 6 weeks. In addition, the VRBT group participated in VRBT for 30 min a day, 3 times a week for 6 weeks. Static balance (postural sway velocity with eyes open or closed) was evaluated with the posturography. Dynamic balance was evaluated with the Berg Balance Scale (BBS) and Timed Up and Go test (TUG) that measures balance and mobility in dynamic balance. There was greater improvement on BBS (4.00 vs. 2.81 scores) and TUG (-1.33 vs. -0.52 sec) in the VRBT
group compared with the control group (P < 0.05), but not on static balance in both groups. In conclusion, we demonstrate a significant improvement in dynamic balance in chronic stroke patients with VRBT. VRBT is feasible and suitable for chronic stroke patients with balance deficit in clinical settings.

Source: Medline
Available in fulltext from Tohoku Journal of Experimental Medicine at EBSCOhost

42. Neurofunctional treatment targeting participation among chronic stroke survivors: a pilot randomised controlled study.

Author(s) Rotenberg-Shpigelman S, Erez AB, Nahaloni I, Maeir A
Citation: Neuropsychological Rehabilitation, 2012, vol./is. 22/4(532-49), 0960-2011;1464-0694 (2012)
Publication Date: 2012
Abstract: Long-term disabilities are common among stroke survivors and are associated with reduced quality of life (QoL). Research on occupation-based intervention for chronic stroke survivors is sparse. The objective of this study was to examine the effectiveness of neurofunctional treatment (NFT), an occupation-based client-centred treatment approach, for attaining individualised goals in chronic stroke survivors. A pilot randomised control study with a crossover design was employed. The participants were randomly allocated to treatment or control groups, with the intervention replicated for the control group after three months. Twenty three community dwelling stroke survivors, at least one year post-stroke attending a community day centre participated in this study. The 12-week intervention included NFT with individualised occupational goal setting. The treatment methods included task-specific training, environmental or task adaptation, assistive devices, motivation recruitment, and advocacy. Significant differences between the groups were found on occupational performance measures, but not on QoL. These findings were replicated after crossover for the control group. The results support the efficacy of NFT for attaining occupational goals in individuals in the chronic stage after stroke, yet further research is needed to validate these findings in additional treatment settings and over time.

Source: Medline

43. HandTutorTM enhanced hand rehabilitation after stroke--a pilot study.

Author(s) Carmeli E, Peleg S, Bartur G, Elbo E, Vatine JJ
Citation: Physiotherapy Research International, December 2011, vol./is. 16/4(191-200), 1358-2267;1471-2865 (2011 Dec)
Publication Date: December 2011
Abstract: BACKGROUND AND PURPOSE: This study assessed the potential therapeutic benefit of using HandTutorTM in combination with traditional rehabilitation in a post-stroke sub-acute population. The study compares an experimental group receiving traditional therapy combined with HandTutorTM treatment, against a control group receiving only traditional therapy.METHOD: An assessor-blinded, randomized controlled pilot trial, was conducted in the Reuth rehabilitation unit in Israel. Thirty-one stroke patients in the sub-acute phase, were randomly assigned to one of the two groups (experimental or control) in sets of three. The experimental group (n = 16) underwent a hand rehabilitation programme using the HandTutorTM combined with traditional therapy. The control group (n = 15) received only traditional therapy. The treatment schedules for both groups were of similar duration and frequency. Improvements were evaluated using three indicators: 1) The Brunnstrom-Fugl-Meyer (FM) test, 2) the Box and Blocks (B&B) test and 3) improvement parameters as determined by the HandTutorTM software.RESULTS: Following 15 consecutive treatment sessions, a significant improvement was observed within the experimental group (95% confidence intervals) compared with the control group: B&B p = 0.015; FM p = 0.041, HandTutorTM performance accuracy on x axis and performance accuracy on y axis p < 0.0003.CONCLUSION: The results from this pilot study support further investigation of the use of the HandTutorTM in combination with traditional occupational therapy and physiotherapy during post stroke hand function rehabilitation.
44. Effect of the co-op treatment approach in stroke: Pooled results from three preliminary studies

Author(s) Rios J., McEwen S., Baum C., Wolf T., Polatajko H.

Citation: Stroke, November 2011, vol./is. 42/11(e615), 0039-2499 (November 2011)

Publication Date: November 2011

Abstract: Background: Long term activity and participation outcomes following stroke are poor, even after rehabilitation. CO-OP incorporates cognitive strategies with task-specific training to facilitate efficient skill acquisition and better long-term retention. The objective of this study was to estimate the effect size of CO-OP in adults with stroke using 3 preliminary studies, to plan a future randomized controlled trial (RCT). Methods: Pre-post results were pooled (n=12) from two case studies (n=2), two single case experimental series (n=6), and a pilot randomized controlled trial (CO-OP group n=4). Participants were community-dwelling and at least 6 months post stroke. Performance on self-selected activities was the main outcome, measured using the participant-rated Canadian Occupational Performance Measure (COPM) and the observer-rated Performance Quality Rating Scale (PQRS). Paired samples t-tests and effect sizes were calculated. Results: Mean PQRS scores at post-test (M=7.44, SD=1.73) were significantly greater than pre-test scores (M=3.81, SD=0.57), t(11)=8.2, p<.001, 95% CI [2.66, 4.61]. Mean scores at post-test for the COPM performance (M=7.11, SD=1.87) and COPM satisfaction (M=7.15, SD = 1.82) were significantly greater than pre-test scores (M=2.81, SD=1.69), t(11)=8.18, p<.001, 95% CI [3.15, 5.46] and (M=2.83, SD=1.44), t(11)=6.47, p<.001, 95% CI [2.85, 5.79], respectively. Repeated measures effect sizes were large for all outcomes: PQRS (.86), COPM performance (.86), and COPM satisfaction (.79). Conclusions: Pooled data from three preliminary studies suggest that CO-OP has a large effect on skill performance. Preliminary evidence demonstrates the efficacy of CO-OP as an approach that will increase the independence of people living with stroke. These results are being used to plan a Phase II RCT comparing CO-OP to standard occupational therapy.

Source: Medline
Available in fulltext from Physiotherapy Research International at EBSCOhost
Available in fulltext from Physiotherapy Research International at EBSCOhost

45. Retention of Motor Changes in Chronic Stroke Survivors Who Were Administered Mental Practice.

Author(s) Page, Stephen J., Murray, Colleen, Hermann, Valerie, Levine, Peter

Citation: Archives of Physical Medicine & Rehabilitation, 01 November 2011, vol./is. 92/11(1741-1745), 00039993

Publication Date: 01 November 2011

Abstract: Page SJ, Murray C, Hermann V, Levine P. Retention of motor changes in chronic stroke survivors who were administered mental practice. Objective: To determine retention of motor changes 3 months after participation in a regimen consisting of mental practice (MP) combined with repetitive task-specific (RTP) practice. Design: Prospective, blinded, cohort, pre-post study. Setting: Outpatient rehabilitation hospital. Participants: Individuals (N=21) in the chronic stage of stroke (mean age ± SD, 66.1±8.1y; age range, 56–76y; mean time since stroke at study enrollment, 58.7mo; range, 13–129mo) exhibiting mild to moderate impairments of hand function. Interventions: All individuals had been randomly assigned to receive a 10-week regimen consisting of MP emphasizing paretic upper extremity (UE) use during valued activities. Directly after each of these sessions, subjects were administered audiotaped MP. We assessed this group’s paretic UE motor levels before, after, and 3 months after intervention. Main Outcome Measures: The UE
section of the Fugl-Meyer Assessment of Sensorimotor Impairment (FM), the Action Research Arm Test (ARAT), the Arm Motor Ability Test (AMAT), and the Box and Block Test (BB). Results: None of the scores significantly changed from the period directly after intervention to the 3-month posttesting period (FM: t=.817; ARAT: t=.923; AMAT: t=.898, t=.818, and t=.967 for the Functional Ability, Quality of Movement, and Time scales, respectively; BB: t=.892). Conclusions: Changes in paretic UE movement realized through MP combined with RTP (MP + RTP) participation are retained 3 months after the intervention has concluded. This is the first study examining retention of motor changes after MP + RTP participation, and one of only a few studies examining long retention of motor changes after any intervention targeting stroke-induced hemiparesis.

Source: CINAHL

46. Potential effectiveness of three different treatment approaches to improve minimal to moderate arm and hand function after stroke – a pilot randomized clinical trial.

Author(s) Khan, Christine Meier, Oesch, Peter R, Gamper, Urs N, Kool, Jan P, Beer, Serafin

Citation: Clinical Rehabilitation, 01 November 2011, vol./is. 25/11(1032-1041), 02692155

Publication Date: 01 November 2011

Source: CINAHL

47. Goal-directed outpatient rehabilitation following TBI: A pilot study of programme effectiveness and comparison of outcomes in home and day hospital settings.

Author(s) Doig, Emmah, Fleming, Jennifer, Kuipers, Pim, Cornwell, Petrea, Khan, Asad

Citation: Brain Injury, 01 October 2011, vol./is. 25/11(1114-1125), 02699052

Publication Date: 01 October 2011

Abstract: Primary objective: To determine (i) the effectiveness of a goal-directed, environment-focused occupational therapy intervention and (ii) to compare rehabilitation gains across a day hospital (outpatient) setting and home setting. Research design: Repeated measures cross-over design with pre-post test measures and a baseline control period, random allocation to a treatment setting sequence and an independent outcome assessor who was blinded to treatment sequence. Methods and procedures: Descriptive and non-parametric comparative analyses employed. Fourteen participants with severe traumatic brain injury completed a 12 week outpatient occupational therapy programme. The programme was directed by the participant's chosen goals, which were established using a client-centred, structured, goal-planning process. Outcome measures included Goal attainment scaling, the Canadian Occupational Performance Measure, the Sydney Psychosocial Reintegration Scale, the Mayo-Portland Adaptability Index, the Craig Hospital Inventory of Environmental Factors and self-rated satisfaction with therapy. Main outcomes and results: The therapy programme resulted in significant improvements in goal attainment, occupational performance, psychosocial reintegration and ability and adjustment levels, compared with baseline. Differences in gains made in home vs day hospital settings were not statistically significant, with the exception of higher levels of patient satisfaction with therapy at home. Conclusions: To assist further with decision-making about where to conduct therapy, further research is needed to compare the outcomes and determine the cost effectiveness of therapy at home and in day hospital settings.

Source: CINAHL

Available in fulltext from Brain Injury at EBSCOhost


Author(s) Patil P, Rao S
**Abstract:** BACKGROUND: In stroke patients, it is difficult to manually assist dorsi-flexion during the normal gait cycle as it is a distal component. Furthermore, it is nearly impossible to simultaneously guard the patient and manually assist dorsi-flexion during the swing phase of gait. However, one of the key benefits of Thera-Band Elastic Resistance-Assisted Gait Training is that it offers distal control of lower extremity during the normal gait sequence without jeopardizing patient safety. AIM: Aim of this study was to compare and measure the effects of Thera-Band Elastic Resistance-Assisted Gait Training in stroke patients with respect to quality of gait and functional mobility. DESIGN: This was a pilot study. SETTING: The study was carried out at the Occupational Therapy Department, Mumbai, India. POPULATION: The study included 16 patients aged between 30-60 years with first episode of stroke or subacute stroke. METHODS: Following informed consent, as per inclusion criteria patients were randomly assigned in two groups: 1) control group: Conventional Occupational Therapy Intervention and Conventional Gait Training; 2) experimental group: Conventional Occupational Therapy and Thera-Band Elastic Resistance Assisted Gait Training. Patients were assessed on: 1) Wisconsin Gait Scale; 2) Rivermead Mobility Index. Patients were reassessed as done initially at the end of third and sixth week. Patients received therapy three times a week for six weeks. RESULTS: Each group separately was associated with statistically significant improvement in quality of gait (P<0.001) as well as functional mobility (P<0.001). Thera-Band Elastic Resistance-Assisted Gait Training had a more positive effect on improving the quality of gait, functional mobility in a short duration as compared to the conventional gait training. CONCLUSION: The use of Thera-Band Elastic Resistance-Assisted Gait Training contributed to faster recovery as compared to the control group. Functionally patients showed improvement as compared to conventional therapy. CLINICAL REHABILITATION IMPACT: Thera-Band Elastic Resistance-Assisted Gait Training facilitates dorsi-flexion during a single cycle of swing.

**Source:** Medline

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**Abstract:** OBJECTIVES: To compare the benefits of a short-term occupational therapy intervention (OTI) when added to the conventional treatment model (CTM) in the functional recovery of patients admitted to an acute geriatric unit (AGU). STUDY DESIGN: Non-pharmacological randomized clinical trial. 400 patients were randomized to OTI (n = 198) or CTM (n = 202) group. Mean age 83.5. Interventions included needs assessment, iatrogenic prevention, retraining in activities of daily living, and instructions for caregivers in three groups of patients defined a priori (cardiopulmonary disease, stroke, other conditions) 5 days a week, 30-45 min a day. MAIN OUTCOME MEASURE: Recovery of >= 10 Barthel index points by discharge. Secondary outcome was the reduction in confusional episodes. RESULTS: The adjusted relative risk (RR) of functional recovery in the OTI group was 1.16 (95%CI 0.91-1.47). In participants with cardiopulmonary disease was 1.57 (95%CI 1.06-2.32), number needed to treat (NNT) 5. Participants with other conditions assigned to OTI had a reduction in acute confusional episodes; RR 0.48 (95% CI 0.26-0.87), NNT 7. CONCLUSIONS: Although overall there were no significant differences, patients with cardiopulmonary disease or non-stroke pathologies admitted to an AGU, may benefit from a short-term OTI. Copyright 2011 Elsevier Ireland Ltd. All rights reserved.

**Source:** Medline

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**Abstract:** OBJECTIVES: To compare the benefits of a short-term occupational therapy intervention (OTI) when added to the conventional treatment model (CTM) in the functional recovery of patients admitted to an acute geriatric unit (AGU). STUDY DESIGN: Non-pharmacological randomized clinical trial. 400 patients were randomized to OTI (n = 198) or CTM (n = 202) group. Mean age 83.5. Interventions included needs assessment, iatrogenic prevention, retraining in activities of daily living, and instructions for caregivers in three groups of patients defined a priori (cardiopulmonary disease, stroke, other conditions) 5 days a week, 30-45 min a day. MAIN OUTCOME MEASURE: Recovery of >= 10 Barthel index points by discharge. Secondary outcome was the reduction in confusional episodes. RESULTS: The adjusted relative risk (RR) of functional recovery in the OTI group was 1.16 (95%CI 0.91-1.47). In participants with cardiopulmonary disease was 1.57 (95%CI 1.06-2.32), number needed to treat (NNT) 5. Participants with other conditions assigned to OTI had a reduction in acute confusional episodes; RR 0.48 (95% CI 0.26-0.87), NNT 7. CONCLUSIONS: Although overall there were no significant differences, patients with cardiopulmonary disease or non-stroke pathologies admitted to an AGU, may benefit from a short-term OTI. Copyright 2011 Elsevier Ireland Ltd. All rights reserved.

**Source:** Medline

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**Abstract:** OBJECTIVES: To compare the benefits of a short-term occupational therapy intervention (OTI) when added to the conventional treatment model (CTM) in the functional recovery of patients admitted to an acute geriatric unit (AGU). STUDY DESIGN: Non-pharmacological randomized clinical trial. 400 patients were randomized to OTI (n = 198) or CTM (n = 202) group. Mean age 83.5. Interventions included needs assessment, iatrogenic prevention, retraining in activities of daily living, and instructions for caregivers in three groups of patients defined a priori (cardiopulmonary disease, stroke, other conditions) 5 days a week, 30-45 min a day. MAIN OUTCOME MEASURE: Recovery of >= 10 Barthel index points by discharge. Secondary outcome was the reduction in confusional episodes. RESULTS: The adjusted relative risk (RR) of functional recovery in the OTI group was 1.16 (95%CI 0.91-1.47). In participants with cardiopulmonary disease was 1.57 (95%CI 1.06-2.32), number needed to treat (NNT) 5. Participants with other conditions assigned to OTI had a reduction in acute confusional episodes; RR 0.48 (95% CI 0.26-0.87), NNT 7. CONCLUSIONS: Although overall there were no significant differences, patients with cardiopulmonary disease or non-stroke pathologies admitted to an AGU, may benefit from a short-term OTI. Copyright 2011 Elsevier Ireland Ltd. All rights reserved.

**Source:** Medline
A growing body of research, including evidence from numerous randomized controlled trials, suggests that constraint-induced movement therapy (CIMT) reduces impairment. The mean age of participants in most studies has been <65 yr, even though most stroke survivors are older than that. We investigated the efficacy of a modified CIMT protocol on participation, activity, and impairment in a population of older adults experiencing subacute stroke. Using an interrupted time series design, 4 older adults (mean age = 82) were assessed before and after intervention. Although none of the participants adhered to the 6-hr per day self-practice aspect of the CIMT protocol, considerable improvements were noted in participation, as measured using the Canadian Occupational Performance Measure. Some improvements were also noted at the level of impairment and activity. This work accords with previous literature on CIMT and has important implications for the evolution of stroke rehabilitation in elderly people.
stroke rehabilitative regimen augmented by mental practice renders a greater functional impact than therapy only.

**Source:** EMBASE

**53. Modified constraint-induced movement therapy versus traditional rehabilitation in patients with upper-extremity dysfunction after stroke: A systematic review and meta-analysis**

**Author(s)** Shi Y.X., Tian J.H., Yang K.H., Zhao Y.

**Citation:** Archives of Physical Medicine and Rehabilitation, June 2011, vol./is. 92/6(972-982), 0003-9993;1532-821X (June 2011)

**Publication Date:** June 2011

**Abstract:** Objective: To compare the effectiveness of modified constraint-induced movement therapy (CIMT) with traditional rehabilitation (TR) therapy in patients with upper-extremity dysfunction after stroke. Date Sources: Computerized database searches and hand-searches, as 2 main search strategies, were used to collect studies. A comprehensive search of PubMed, EMBASE, the Cochrane Library, the Chinese academic journals full-text database, the Chinese biomedical literature database, the Chinese scientific journals database, and Chinese medical association journals was conducted. Relevant journals and article reference lists were hand-searched. Meanwhile, we searched unpublished trials by using the System for Information on Gray Literature database. Study Selection: Randomized controlled trials (RCTs) only about modified CIMT versus TR for treatment of patients with upper-extremity dysfunction after stroke were identified in this systematic review. Participants included adults age over 18 years with a clinical diagnosis of stroke and met the inclusion criteria of modified CIMT. Date Extraction: Two reviewers extracted relevant information from included studies according to a date extraction form. The methodologic quality of the included studies was assessed using a quality-scoring instrument, which was a 5-point scale that included a description of randomization, double-blind structure, and withdrawals/dropouts. Data Synthesis: Thirteen RCTs involving 278 patients (modified CIMT/TR=143/135) were included. Meta-analysis showed that patients receiving modified CIMT showed higher scores for the Fugl Meyer Assessment (mean difference [MD]=7.8; 95% confidence interval [CI], 4.21-11.38), the Action Research Arm Test (MD=14.15; 95% CI, 10.71-17.59), the FIM (MD=7.00; 95% CI, .75-13.26), and the Motor Activity Log: Amount of Use (MD=.78; 95% CI, .37-1.19) and Quality of Use (MD=.84; 95% CI, .42-1.25) than patients in the TR group. In kinematic variables, patients receiving modified CIMT had a shorter reaction time and a higher percentage of movement time where peak velocity occurred than patients receiving TR (P<.05), while meta-analysis showed that there was no significant difference in normalized movement time (P=.99), normalized total displacement (P=.44), and normalized movement unit (P=.68). Conclusions: This systematic review provided fairly strong evidence that modified CIMT could reduce the level of disability, improve the ability to use the paretic upper extremity, and enhance spontaneity during movement time, but evidence is still limited about the effectiveness of modified CIMT in kinematic analysis. 2011 by the American Congress of Rehabilitation Medicine.

**Source:** EMBASE

**54. Comparison of conventional therapy, intensive therapy and modified constraint-induced movement therapy to improve upper extremity function after stroke.**

**Author(s)** Wang, Qiang, Zhao, Jing-li, Xhu, Qi-xiu, Li, Jiang, Meng, Ping-ping

**Citation:** Journal of Rehabilitation Medicine (Stiftelsen Rehabiliteringsinformation), 01 June 2011, vol./is. 43/7(619-625), 16501977

**Publication Date:** 01 June 2011

**Source:** CINAHL

**55. Non-pharmacological interventions for perceptual disorders following stroke and...**
other adult-acquired, non-progressive brain injury.

Author(s) Bowen A, Knapp P, Gillespie D, Nicolson DJ, Vail A

Citation: Cochrane Database of Systematic Reviews, 01 April 2011, vol./is. /4(0-), 1469493X

Publication Date: 01 April 2011

Abstract: Background:

Source: CINAHL
Available in fulltext from Cochrane Library, The at Wiley

56. Optimizing recovery potential through simultaneous occupational therapy and non-invasive brain-stimulation using tDCS.

Author(s) Nair DG, Renga V, Lindenberg R, Zhu L, Schlaug G

Citation: Restorative Neurology & Neuroscience, 2011, vol./is. 29/6(411-20), 0922-6028;0922-6028 (2011)

Publication Date: 2011

Abstract: PURPOSE: It is thought that following a stroke the contralesional motor region exerts an undue inhibitory influence on the lesional motor region which might limit recovery. Pilot studies have shown that suppressing the contralesional motor region with cathodal transcranial Direct Current Stimulation (tDCS) can induce a short lasting functional benefit; greater and longer lasting effects might be achieved with combining tDCS with simultaneous occupational therapy (OT) and applying this intervention for multiple sessions.METHODS: We carried out a randomized, double blind, sham controlled study of chronic stroke patients receiving either 5 consecutive days of cathodal tDCS (for 30 minutes) applied to the contralesional motor region and simultaneous OT, or sham tDCS+OT.RESULTS: we showed that cathodal tDCS+OT resulted in significantly more improvement in Range-Of-Motion in multiple joints of the paretic upper extremity and in the Upper-Extrremity Fugl-Meyer scores than sham tDCS+OT, and that the effects lasted at least one week post-stimulation. Improvement in motor outcome scores was correlated with decrease in fMRI activation in the contralesional motor region exposed to cathodal stimulation.CONCLUSIONS: This suggests that cathodal tDCS combined with OT leads to significant motor improvement after stroke due to a decrease in the inhibitory effect that the contralesional hemisphere exerts onto the lesional hemisphere.

Source: Medline
Available in fulltext from Restorative Neurology and Neuroscience at EBSCOhost

57. Agreement between two different scoring procedures for goal attainment scaling is low

Author(s) Bovend'Eerdt T.J., Dawes H., Izadi H., Wade D.T.

Citation: Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine, January 2011, vol./is. 43/1(46-49), 1651-2081 (Jan 2011)

Publication Date: January 2011

Abstract: To investigate the agreement between a patient's therapist and an independent assessor in scoring goal attainment by a patient. Data were obtained on hospital patients with neurological disorders participating in a randomized trial. The patients' therapists set 2-4 goals using a goal attainment scaling method. Six weeks later attainment was scored by: (i) the treating therapists; and (ii) an independent assessor unfamiliar with the patient, using a semi-structured interview method with direct assessment as appropriate. A total of 112 goals in 29 neurological patients were used. The intraclass correlation coefficient (ICC(A,k)=0.478) and limits of agreement (-1.52 +/- 24.54) showed poor agreement between the two scoring procedures. There was no systematic bias. The agreement between the patients' therapists scoring the goals and the independent assessor was low, signifying a large difference between the two scoring procedures. Efforts should be made to
improve the reproducibility of goal attainment scaling before it is to be used as an outcome measure in blinded randomized controlled trials.

Source: EMBASE


Author(s) Guidetti S, Ytterberg C

Citation: Disability & Rehabilitation, 2011, vol./is. 33/6(494-503), 0963-8288;1464-5165 (2011)

Publication Date: 2011

Abstract: PURPOSE: The aim of this randomised controlled pilot study of a client-centred self-care intervention (CCSCI) in individuals with stroke was to study (i) the feasibility of the study design, (ii) effects up to 12 months on activities of daily living (ADL), use of informal care and home help services and the caregiver burden.METHOD: An intervention group (IG) received CCSCI and a control group (CG) received ordinary training. Forty individuals with stroke (IG n = 19, CG n = 21) were included. Data were collected at 3, 6 and 12 months using established instruments.RESULTS: After 12 months 24 people remained in the study (IG = 10, CG = 14). The data collection method was acceptable to most participants. At 12 months there were no differences in ADL, use of services or caregiver's burden. Both groups improved significantly and clinically important improvements were achieved by 80% in the IG and 71% in the CG.CONCLUSIONS: The results should be interpreted with caution because of the small sample size and the large proportion of dropouts. However, the CCSCI appears promising as a way of recapturing self-care after stroke and a large randomised controlled trial is warranted, in which the present design and methods will be suitable with some modification.

Source: Medline

59. Virtual reality based rehabilitation speeds up functional recovery of the upper extremities after stroke: a randomized controlled pilot study in the acute phase of stroke using the rehabilitation gaming system.

Author(s) da Silva Cameirao M, Bermudez I Badia S, Duarte E, Verschure PF

Citation: Restorative Neurology & Neuroscience, January 2011, vol./is. 29/5(287-98), 0922-6028;0922-6028 (2011 Jan 1)

Publication Date: January 2011

Abstract: PURPOSE: Given the incidence of stroke, the need has arisen to consider more self-managed rehabilitation approaches. A promising technology is Virtual Reality (VR). Thus far, however, it is not clear what the benefits of VR systems are when compared to conventional methods. Here we investigated the clinical impact of one such system, the Rehabilitation Gaming System (RGS), on the recovery time course of acute stroke. RGS combines concepts of action execution and observation with an automatic individualization of training. METHODS. Acute stroke patients (n = 8) used the RGS during 12 weeks in addition to conventional therapy. A control group (n = 8) performed a time matched alternative treatment, which consisted of intense occupational therapy or non-specific interactive games. RESULTS. At the end of the treatment, between-group comparisons showed that the RGS group displayed significantly improved performance in paretic arm speed that was matched by better performance in the arm subpart of the Fugl-Meyer Assessment Test and the Chedoke Arm and Hand Activity Inventory. In addition, the RGS group presented a significantly faster improvement over time for all the clinical scales during the treatment period. CONCLUSIONS. Our results suggest that rehabilitation with the RGS facilitates the functional recovery of the upper extremities and that this system is therefore a promising tool for stroke neurorehabilitation.

Source: Medline

Available in fulltext from Restorative Neurology and Neuroscience at EBSCOhost
60. Bihemispheric brain stimulation facilitates motor recovery in chronic stroke patients.

Author(s) Lindenberg R, Renga V, Zhu LL, Nair D, Schlaug G

Citation: Neurology, December 2010, vol./is. 75/24(2176-84), 0028-3878;1526-632X (2010 Dec 14)

Publication Date: December 2010

Abstract: OBJECTIVE: Motor recovery after stroke depends on the integrity of ipsilesional motor circuits and interactions between the ipsilesional and contralesional hemispheres. In this sham-controlled randomized trial, we investigated whether noninvasive modulation of regional excitability of bilateral motor cortices in combination with physical and occupational therapy improves motor outcome after stroke. METHODS: Twenty chronic stroke patients were randomly assigned to receive 5 consecutive sessions of either 1) bihemispheric transcranial direct current stimulation (tDCS) (anodal tDCS to upregulate excitability of ipsilesional motor cortex and cathodal tDCS to downregulate excitability of contralesional motor cortex) with simultaneous physical/occupational therapy or 2) sham stimulation with simultaneous physical/occupational therapy. Changes in motor impairment (Upper Extremity Fugl-Meyer) and motor activity (Wolf Motor Function Test) assessments were outcome measures while functional imaging parameters were used to identify neural correlates of motor improvement. RESULTS: The improvement of motor function was significantly greater in the real stimulation group (20.7% in Fugl-Meyer and 19.1% in Wolf Motor Function Test scores) when compared to the sham group (3.2% in Fugl-Meyer and 6.0% in Wolf Motor Function Test scores). The effects outlasted the stimulation by at least 1 week. In the real-stimulation group, stronger activation of intact ipsilesional motor regions during paced movements of the affected limb were found postintervention whereas no significant activation changes were seen in the control group. CONCLUSIONS: The combination of bihemispheric tDCS and peripheral sensorimotor activities improved motor functions in chronic stroke patients that outlasted the intervention period. This novel approach may potentiate cerebral adaptive processes that facilitate motor recovery after stroke. Classification of evidence: This study provides Class I evidence that for adult patients with ischemic stroke treated at least 5 months after their first and only stroke, bihemispheric tDCS and simultaneous physical/occupational therapy given over 5 consecutive sessions significantly improves motor function as measured by the Upper Extremity Fugl-Meyer assessment (raw change treated 6.1 +/- 3.4, sham 1.2 +/- 1.0).

Source: Medline

Available in fulltext from Neurology at the ULHT Library and Knowledge Services' eJournal collection


Author(s) Guidetti S, Andersson K, Andersson M, Tham K, Koch LV

Citation: Scandinavian Journal of Occupational Therapy, 01 December 2010, vol./is. 17/4(276-285), 11038128

Publication Date: 01 December 2010

Abstract: Background: The aim of the study was to evaluate the effect of client-centred, self-care intervention (CCSCI) on (i) activities of daily living (ADL) and life satisfaction in persons with stroke, (ii) caregiver burden, use of informal care and home-help services, and (iii) the feasibility of the study design. Design: Randomized controlled trial, a pilot study of an intervention group (IG) receiving CCSCI or a control group (CG) receiving ordinary training. Subjects: Forty persons with stroke (IG n = 19, CG n = 21) were included: non-demented, able to follow instructions, dependent regarding self-care and referred for rehabilitation, and their significant others (IG n = 8, CG n = 8). Method: Data were collected at baseline and three months later using established instruments regarding ADL, life satisfaction, caregiver burden, and use of health services from medical records, the county register, and by interviews. Results: There were no differences in ADL, life satisfaction, caregiver burden, and use of services at three months. Both groups improved significantly and clinically important improvements were achieved by 86% in IG and 63% in CG. Conclusion: The CCSCI appears promising for the recapturing of self-care after stroke and a large randomized controlled trial is warranted, in which the present design and methods

**Author(s)** Kim DY, Lim JY, Kang EK, You DS, Oh MK, Oh BM, Paik NJ

**Citation:** American Journal of Physical Medicine & Rehabilitation, November 2010, vol./is. 89/11(879-86), 0894-9115;1537-7385 (2010 Nov)

**Publication Date:** November 2010

**Abstract:** OBJECTIVE: To test the hypothesis that 10 sessions of transcranial direct current stimulation combined with occupational therapy elicit more improvement in motor function of the paretic upper limb than sham stimulation in patients with subacute stroke.DESIGN: Eighteen patients with subacute stroke with hand motor impairment were randomly assigned to one of the three 10-day sessions of (a) anodal transcranial direct current stimulation over the affected motor cortex, (b) cathodal transcranial direct current stimulation over the unaffected motor cortex, or (c) sham stimulation. Blinded evaluators assessed upper limb motor impairment and global functional state with the Fugl-Meyer Assessment score and the Modified Barthel Index at baseline, 1 day after stimulation, and 6 mos after stimulation.RESULTS: Baseline scores for Fugl-Meyer Assessment and Modified Barthel Index were comparable in all groups (P > 0.05). At 6-mo follow-up, cathodal transcranial direct current stimulation led to a greater improvement in Fugl-Meyer Assessment than the sham procedure (P < 0.05). There was a significant inverse correlation between baseline Fugl-Meyer Assessment and Fugl-Meyer Assessment increase at 6 mos (r = -0.846; P < 0.01).CONCLUSIONS: Our results suggest a potentially beneficial effect of noninvasive cortical stimulation during rehabilitative motor training of patients who have suffered from subacute strokes.

**Source:** Medline

63. Improvement of visual search after audiovisual exploration training in hemianopic patients.

**Author(s)** Keller I, Lefin-Rank G

**Citation:** Neurorehabilitation & Neural Repair, September 2010, vol./is. 24/7(666-73), 1545-9683;1552-6844 (2010 Sep)

**Publication Date:** September 2010

**Abstract:** OBJECTIVE: A variety of rehabilitation strategies have been tried in patients with chronic hemianopia and quadrantanopia. The authors compared 2 approaches of blind field exploration in those with recent onset of disease.METHODS: A total of 20 patients with visual field defects were studied between 3 and 24 weeks primarily after stroke. Patients were randomly assigned to separate groups performing either audiovisual stimulation training or a visual stimulation training (20 sessions, each lasting 30 minutes). Patients were evaluated before and after the training with visual exploration tests for reading and object search; eye movements were analyzed with electro-oculography, and a questionnaire was completed by an occupational therapist about impairment in daily life activities.RESULTS: Both groups improved their performance after compensatory eye movement training. Comparisons between the 2 forms of training revealed a significantly greater improvement for all outcome variables for the audiovisual group. In particular audiovisual stimulation significantly increased the number and amplitude of saccades.CONCLUSIONS: Multimodal audiovisual exploration training appears to be more effective than exploration training alone and may improve function beyond spontaneous
recovery soon after ischemia of the occipital lobe.

Source: Medline

64. Stochastic resonance stimulation for upper limb rehabilitation poststroke.

Author(s) Stein J, Hughes R, D'Andrea S, Therrien B, Niemi J, Krebs K, Langone L, Harry J

Citation: American Journal of Physical Medicine & Rehabilitation, September 2010, vol./is. 89/9(697-705), 0894-9115;1537-7385 (2010 Sep)

Publication Date: September 2010

Abstract: OBJECTIVES: Previous studies have shown that subthreshold electrical or mechanical noise can reduce the sensory threshold and impart short-term improvements in sensorimotor function. We undertook this study to examine the effects of combined subsensory electrical and vibratory stimulation in conjunction with exercise training on long-term motor performance. DESIGN: Thirty subjects were recruited from adult community-dwelling stroke survivors with residual hemiparesis. Subjects were screened for residual motor ability using a functional task, and those who functioned below this level were excluded. All subjects had a history of a single unilateral ischemic or hemorrhagic stroke at least 6 mos before study entry and were not actively receiving occupational or physical therapy. Subjects were stratified by baseline upper extremity Fugl-Meyer (UEFM) (more impaired [28-35] and less impaired [36-55]) and were randomized to one of two groups: treatment (stochastic resonance stimulation [plus over minus sign] exercise: 15 subjects) and control (sham stimulation [plus over minus sign] exercise: 15 subjects). RESULTS: No significant difference was found between the stochastic resonance treatment and control group in the UEFM or in any of the secondary measures. The combined group showed modest improvements in UEFM from baseline to completion of therapy (mean improvement, 2.6 points) (P = 0.004); however, these improvements declined by 1-mo follow-up to 1.5 points (P = 0.055). No change in sensory function was detectable. CONCLUSIONS: Stochastic resonance therapy combined with occupational therapy was no more effective than occupational therapy alone in restoring sensorimotor performance. Other stochastic resonance stimulation montages or protocols might prove more effective.

Source: Medline

65. Occupational therapy for cognitive impairment in stroke patients.

Author(s) Hoffmann T, Bennett S, Koh C, McKenna KT

Citation: Cochrane Database of Systematic Reviews, 01 September 2010, vol./is. /9(0-), 1469493X

Publication Date: 01 September 2010

Abstract: Background:

Source: CINAHL

Available in fulltext from Cochrane Library, The at Wiley

66. The impact of bilateral therapy on upper limb function after chronic stroke: a systematic review.

Author(s) Latimer CP, Keeling J, Lin B, Henderson M, Hale LA

Citation: Disability & Rehabilitation, 01 September 2010, vol./is. 32/15(1221-1231), 09638288

Publication Date: 01 September 2010

Abstract: Purpose. To determine the evidence for bilateral therapy interventions aimed at improving upper limb (UL) function in adults with a range of UL activity limitations due to a first time chronic stroke. Method. Seven databases were searched prior to 2008 for articles reporting experimental studies investigating bilateral UL interventions on functional
outcome in participants with a first stroke, 6 or more months prior. Included articles were evaluated with the quality index, a tool which evaluates the quality of both randomised and non-randomised studies. Data relating to study design and functional outcome were extracted. Results. Nine articles were included; three reported on randomised controlled trials (RCT) and six on cohort studies. Eight studies incorporated a mechanical device as their bilateral intervention. Bilateral arm training with rhythmic auditory cueing (BATRAC) was the most commonly used mechanically based intervention, and three of the four uncontrolled BATRAC studies reported significant improvements in UL function post-intervention, however these results were not substantiated by a RCT study of the BATRAC intervention. One study demonstrated significant functional improvements after 6 days of training with a non-mechanical bilateral task. Of the four studies that performed a follow-up assessment, three reported significant improvement in UL function. Quality index ratings of the included studies ranged from 18 to 25 out of 27. Conclusion. There is some evidence that bilateral therapy improves function in adults with chronic stroke, however more quality RCTs are required to strengthen this evidence.

Source: CINAHL


Author(s) Akinwuntan AE, Devos H, Verheyden G, Baten G, Kiekens C, Feys H, De Weerdt W

Citation: Topics in Stroke Rehabilitation, 01 September 2010, vol./is. 17/5(328-336), 10749357

Publication Date: 01 September 2010

Abstract: Background: Visual inattention is a major cause of road accidents and is a problem commonly experienced after stroke. Purpose: This study investigated the effects of 2 training programs on performance in the Useful Field of View (UFOV), a validated test of driving-related visual attention skills. Method: Data from 69 first-ever, moderately impaired stroke survivors who participated in a randomized controlled trial (RCT) to determine the effects of simulator training on driving after stroke were analyzed. In addition to regular interventions at a rehabilitation center, participants received 15 hours of either simulator-based driving-related training or non-computer-based cognitive training over 5 weeks. Results: Total percentage reduction in UFOV and performance in divided and selective attention and speed of processing subtests were documented at 6 to 9 weeks (pretraining), 11 to 15 weeks (posttraining), and 6 months post stroke (follow-up). Generalized estimating equation (GEE) model revealed neither group effects nor significant interaction effects of group with time in the UFOV total score and the 3 subtests. However, there were significant within-group improvements from pre- through posttraining to follow-up for all the UFOV parameters. Post-hoc GEE analysis revealed that most improvement in both groups occurred from pre- to posttraining. Conclusion: Both training programs significantly improved visual attention skills of moderately impaired stroke survivors after 15 hours of training and retention of benefit lasted up to 6 months after stroke. Neither of the training programs was better than the other.

Source: CINAHL

68. Effectiveness of rehabilitation in enhancing community integration after acute traumatic brain injury: A systematic review

Author(s) Kim H., Colantonio A.

Citation: American Journal of Occupational Therapy, September 2010, vol./is. 64/5(709-719), 0272-9490 (September-October 2010)

Publication Date: September 2010

Abstract: OBJECTIVE. We assessed evidence for post-acute traumatic brain injury (TBI) rehabilitation interventions used to enhance community integration (CI) relevant to occupational therapy. METHOD. We conducted a systematic review of intervention studies on TBI rehabilitation from 1990 to 2007. RESULTS. We analyzed and summarized 10 studies that met the inclusion criteria. Of 10 studies, 7 found that post-acute TBI
rehabilitation benefits CI; all effective studies involved occupational therapy or involved interventions occupational therapists can do. CONCLUSION. Many CI programs show positive results and should be studied more rigorously. Such promising programs should also be considered when decisions about post-acute TBI rehabilitation services for clients are being made. To further establish that post-acute TBI rehabilitation interventions improve CI, future studies should include intervention strategies based on injury severity, a control group, and longer term follow-up. The role of occupational therapy in these effective programs should be further explored.

Source: EMBASE
Available in fulltext from American Journal of Occupational Therapy at the ULHT Library and Knowledge Services’ eJournal collection

69. Comparison of constraint-induced movement therapy and bilateral treatment of equal intensity in people with chronic upper-extremity dysfunction after cerebrovascular accident.

Author(s) Hayner K, Gibson G, Giles GM
Citation: American Journal of Occupational Therapy, July 2010, vol./is. 64/4(528-39), 0272-9490:0272-9490 (2010 Jul-Aug)
Publication Date: July 2010
Abstract: OBJECTIVE: We compared the effectiveness of constraint-induced movement therapy (CIMT) with bilateral treatment of equal intensity for chronic upper-extremity (UE) dysfunction caused by cerebrovascular accident (CVA). DESIGN: We conducted a 2-group, randomized intervention trial with stratification by severity of UE dysfunction. Twelve community-dwelling adults were provided with 6 hr of occupational therapy for 10 days plus additional home practice. Six participants wore a mitt on the unimpaired UE, and 6 participants were intrusively and repetitively cued to use both UEs. The Wolf Motor Function Test (WMFT) and the Canadian Occupational Performance Measure (COPM) were administered before and after treatment and at 6-mo follow-up. RESULTS: Significant improvements were found in WMFT and COPM scores across time in both groups. No significant between-group differences were found on the WMFT. CONCLUSION: High-intensity occupational therapy using a CIMT or a bilateral approach can improve UE function in people with chronic UE dysfunction after CVA. Treatment intensity rather than restraint may be the critical therapeutic factor.

Source: Medline
Available in fulltext from American Journal of Occupational Therapy at the ULHT Library and Knowledge Services’ eJournal collection

70. An Integrated Motor Imagery Program to Improve Functional Task Performance in Neurorehabilitation: A Single-Blind Randomized Controlled Trial

Author(s) Bovend’Eerdt T.J., Dawes H., Sackley C., Izadi H., Wade D.T.
Citation: Archives of Physical Medicine and Rehabilitation, June 2010, vol./is. 91/6(939-946), 0003-9993 (June 2010)
Publication Date: June 2010
Abstract: Bovend’Eerdt TJ, Dawes H, Sackley C, Izadi H, Wade DT. An integrated motor imagery program to improve functional task performance in neurorehabilitation: a single-blind randomized controlled trial. Objective: To investigate the feasibility of a motor imagery program integrated into physiotherapy and occupational therapy. Design: A parallel-group, phase II, assessor-blind randomized controlled trial comparing motor imagery embedded in usual therapy with usual therapy only. Setting: A neurologic rehabilitation center (Oxford, United Kingdom). Participants: Inpatients and outpatients diagnosed with stroke, brain injury, or multiple sclerosis, participating in a rehabilitation program with sufficient language skills to undertake the intervention were recruited (N=30) and assessed at baseline, after 6 weeks (postintervention), and after 12 weeks (follow-up). Interventions: A motor imagery strategy was developed that could be integrated into usual therapy, tailored to individual goals, and used for any activity. The control group received standard care. Main Outcome
Measures: Goal attainment scaling was used as the primary outcome measure. Other measures included the Barthel activities of daily living index and the Rivermead Mobility Index. Results: Compliance with advised treatment was poor in 85% of the therapists and in 72% of the patients. Goal attainment scaling scores significantly improved at postintervention and follow-up ($F_{(2,27)}=45.159$, $P<.001$), but no significant difference was observed between the groups over time ($F_{(1,28)}=.039$, $P=.845$). Conclusions: Therapist and patient compliance with performing the intervention was low, restricting the conclusions regarding the effectiveness of the integrated motor imagery program. Future studies will need to explore barriers and facilitators to uptake of this intervention in clinical practice. Trial recruitment and retention were good. The study demonstrated that imagery could be successfully integrated into usual therapy and tailored for a wide range of functional activities. 2010 American Congress of Rehabilitation Medicine.

Source: EMBASE


Author(s) Bovend'Eerdt TJ, Dawes H, Sackley C, Izadi H, Wade DT

Citation: Archives of Physical Medicine & Rehabilitation, 01 June 2010, vol./is. 91/6(939-946), 00039993

Publication Date: 01 June 2010

Abstract: OBJECTIVE: To investigate the feasibility of a motor imagery program integrated into physiotherapy and occupational therapy. DESIGN: A parallel-group, phase II, assessor-blind randomized controlled trial comparing motor imagery embedded in usual therapy with usual therapy only. SETTING: A neurologic rehabilitation center (Oxford, United Kingdom). PARTICIPANTS: Inpatients and outpatients diagnosed with stroke, brain injury, or multiple sclerosis, participating in a rehabilitation program with sufficient language skills to undertake the intervention were recruited ($N=30$) and assessed at baseline, after 6 weeks (postintervention), and after 12 weeks (follow-up). INTERVENTIONS: A motor imagery strategy was developed that could be integrated into usual therapy, tailored to individual goals, and used for any activity. The control group received standard care. MAIN OUTCOME MEASURES: Goal attainment scaling was used as the primary outcome measure. Other measures included the Barthel activities of daily living index and the Rivermead Mobility Index. RESULTS: Compliance with advised treatment was poor in 85% of the therapists and in 72% of the patients. Goal attainment scaling scores significantly improved at postintervention and follow-up ($F(2,27)=45.159$, $P<.001$), but no significant difference was observed between the groups over time ($F(1,28)=.039$, $P=.845$). CONCLUSIONS: Therapist and patient compliance with performing the intervention was low, restricting the conclusions regarding the effectiveness of the integrated motor imagery program. Future studies will need to explore barriers and facilitators to uptake of this intervention in clinical practice. Trial recruitment and retention were good. The study demonstrated that imagery could be successfully integrated into usual therapy and tailored for a wide range of functional activities. © 2010 American Congress of Rehabilitation Medicine

Source: CINAHL

72. Increasing active practice to increase cerebral reorganisation. Strategies to increase the amount of practice stroke patients achieve in a rehabilitation setting

Author(s) Dorsch S., Schurr K., Scrivener K.

Citation: Cerebrovascular Diseases, May 2010, vol./is. 29/(336), 1015-9770 (May 2010)

Publication Date: May 2010

Abstract: The adult cortex is capable of significant functional reorganisation. Following damage to the brain this reorganisation is dependent on active practice with the affected limbs. For rehabilitation to be effective in optimising the potential for cerebral reorganisation and hence patient outcomes there needs to be an environment that maximises the opportunities for people with stroke to achieve large amounts of practice. There is evidence
that increasing the amount of therapy that stroke patients complete can significantly improve functional outcomes. A systematic review (Van Peppen et al 2004) examined the impact of additional time in physical therapy on functional outcomes, it included 20 RCTs in which the experimental group received additional therapy time ranging from 132 to 6816 minutes and found strong evidence for improved gait speed and performance in ADL. Despite this evidence, observations of the time that people with stroke spend in therapy are disappointing. Furthermore not all the time spent in therapy areas is necessarily spent in useful activity. Ada et al (1999) observed that patients spent only 34% of their therapy minutes engaged in active task-specific practice. They concluded that patients need opportunities to do semi-supervised practice in addition to the practice that they do with a therapist present. The physiotherapists and occupational therapists in a co-located acute and rehabilitation stroke unit at Bankstown-Lidcombe hospital have been examining ways to increase the amount of practice that patients are doing. Classes for lower limb and upper limb practice are held daily. Equipment and strategies that enable patients to practice by themselves and with family have been organised. With these strategies in place some patients are achieving more than 6000 repetitions a week of lower limb exercises. This paper will describe and give examples of the strategies used to increase opportunities to practise and the methods used to record practice.

Source: EMBASE
Available in fulltext from Cerebrovascular Diseases at EBSCOhost

73. Constraint-induced therapy versus control intervention in patients with stroke: a functional magnetic resonance imaging study.


Citation: American Journal of Physical Medicine & Rehabilitation, 01 March 2010, vol./is. 89/3(177-185), 08949115

Publication Date: 01 March 2010

Abstract: OBJECTIVE: This study compared the effects of a distributed form of constraint-induced therapy with control intervention in motor recovery and brain reorganization after stroke. DESIGN: A two-group randomized controlled trial with pretreatment and posttreatment measures was conducted. Thirteen patients with stroke were randomly assigned to the distributed form of constraint-induced therapy (n = 5) or the control intervention group (n = 8). Outcome measures included the Fugl-Meyer Assessment, the Motor Activity Log, and functional magnetic resonance imaging examination. The number of activation voxels and laterality index were determined from the functional magnetic resonance imaging data for the study of brain reorganization. RESULTS: The distributed form of constraint-induced therapy group exhibited significantly greater improvements in the Fugl-Meyer Assessment and Motor Activity Log than the control intervention group. The functional magnetic resonance imaging data showed that distributed form of constraint-induced therapy significantly increased activation in the contralesional hemisphere during movement of the affected and unaffected hand. The control intervention group showed a decrease in primary sensorimotor cortex activation of the ipsilesional hemisphere during movement of the affected hand. CONCLUSIONS: The preliminary findings indicate that brain adaptation may be modulated by specific rehabilitation practices, although generalization of the functional magnetic resonance imaging findings is limited by sample size. Further research is needed to identify the specific neural correlates of the behavioral gains achieved after rehabilitation therapies.

Source: CINAHL

74. A systematic review of cognitive interventions to improve functional ability in people who have cognitive impairment following stroke.

Author(s) Hoffmann T, Bennett S, Koh C, McKenna K

Citation: Topics in Stroke Rehabilitation, 01 March 2010, vol./is. 17/2(99-107), 10749357

Publication Date: 01 March 2010

Abstract: Purpose: Cognitive impairment is a frequent consequence of stroke and can
impact the ability of people who have had a stroke to perform everyday activities. There are a number of intervention strategies that various health professionals may use when working with people who have cognitive impairment post stroke. The purpose of this systematic review was to determine whether interventions for people with cognitive impairment after a stroke improve their functional performance of basic and/or instrumental activities of daily living (ADL).

Method: Searches were performed in the Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, CINAHL, PsycINFO, PsycBITE, OTseeker, and Dissertation Abstracts. Studies were eligible for inclusion if they were a randomised controlled trial or quasi-randomised controlled trial that evaluated an intervention that focused on providing cognitive retraining to adults with clinically defined stroke and confirmed cognitive impairment and measured functional ability, either basic or instrumental ADL, as either a primary or secondary outcome measure.

Results: Four studies, involving a total of 376 participants, were included in this review. There was no statistically significant difference between groups on basic ADL performance in any of the four studies or on instrumental ADL in the one study that measured this.

Conclusion: There were not an adequate number of high quality trials to be able to make recommendations that support or refute the use of specific cognitive retraining interventions to improve functional outcomes following a stroke. More research is required before conclusions can be made about the effect of cognitive interventions on functional outcomes post stroke.

Source: CINAHL

75. Mental practice is effective in upper limb recovery after stroke: a randomized single-blind cross-over study.

Author(s) Riccio I, Iolascon G, Barillari MR, Gimigliano R, Gimigliano F

Citation: European journal of physical & rehabilitation medicine., March 2010, vol./is. 46/1(19-25), 1973-9087;1973-9095 (2010 Mar)

Publication Date: March 2010

Abstract: AIM: The aim of this study was to investigate the role of mental practice (MP) in functional recovery of upper limbs in stroke patients.

METHODS: Thirty-six hemiparetic stroke patients (15 females and 21 males) were enrolled in a randomized single blind cross-over study. Patients were randomly divided into two groups, (A and B) each comprising 18 patients. Patients in group A underwent the conventional neuro-rehabilitation protocol (therapeutic exercise and occupational therapy) for three weeks (3 hours a day, 5 days a week) and in the following 3 weeks, they received an additional 60 minutes of MP training. Patients in group B, instead, underwent, in the first 3 weeks, the rehabilitation program plus MP training and in the following 3 weeks, only the conventional neurehabilitation program. All patients were evaluated at baseline (T0), at 3 weeks (T1) and at 6 weeks (T2) with the Motricity Index (MI) and the Arm Functional Test (AFT).

RESULTS: At baseline (T0) there were no significant differences at MI and AFT between the two groups. At T1 the differences between the two groups became significant. At T2 the difference was once again minimal.

CONCLUSION: These results suggest that MP could be used to complement to the conventional neurehabilitative treatments usually prescribed for post-stroke neuromotor recovery. However, there is still much to be tested and discussed regarding the role that MP might play in the treatment of neurological patients.

Source: Medline

76. Normal movement and functional approaches to rehabilitate lower limb dressing following stroke: a pilot randomised controlled trial.

Author(s) Mew M

Citation: British Journal of Occupational Therapy, 01 February 2010, vol./is. 73/2(64-70), 03080226

Publication Date: 01 February 2010

Abstract: Dressing difficulties are common following stroke. However, specific interventions lack evidence. This pilot single-blind randomised controlled trial investigated normal movement and functional approaches to rehabilitate lower limb dressing, given to
four eligible stroke inpatients. The Nottingham Stroke Dressing Assessment, Rivermead Motor Assessment and Canadian Occupational Performance Measure were taken at baseline, discharge and 8 weeks. The small sample lacked power. Preliminary results indicated that while all patients improved with occupational therapy, approaches may differ in rates of motor recovery, independence and treatment duration. A total sample of 30 is required for more conclusive research to inform lower limb dressing interventions.

Source: CINAHL

77. Combined botulinum toxin type A with modified constraint-induced movement therapy for chronic stroke patients with upper extremity spasticity: a randomized controlled study.

Author(s) Sun S, Hsu C, Sun H, Hwang C, Yang C, Wang J
Citation: Neurorehabilitation & Neural Repair, 01 January 2010, vol./is. 24/1(34-41), 15459683
Publication Date: 01 January 2010
Source: CINAHL

78. The effects of bilateral arm training on motor control and functional performance in chronic stroke: a randomized controlled study.

Author(s) Chen Y, Chen C, Wu C, Wu C, Chang Y
Citation: Neurorehabilitation & Neural Repair, 01 January 2010, vol./is. 24/1(42-51), 15459683
Publication Date: 01 January 2010
Source: CINAHL

79. Retraining visual processing skills to improve driving ability after stroke.

Author(s) Crotty M, George S
Citation: Archives of Physical Medicine & Rehabilitation, December 2009, vol./is. 90/12(2096-102), 0003-9993;1532-821X (2009 Dec)
Publication Date: December 2009
Abstract: UNLABELLED: Crotty M, George S. Retraining visual processing skills to improve driving ability after stroke.OBJECTIVE: To evaluate the effectiveness of retraining using the Dynavision on driving performance of people with stroke.DESIGN: Randomized controlled trial.SETTING: Outpatient rehabilitation clinic in Australia.PARTICIPANTS: People with stroke (N=26) referred for driving assessment.INTERVENTIONS: Eligible participants were randomized to either receive retraining with the Dynavision apparatus for 18 sessions or to receive no intervention and go onto a waitlist.MAIN OUTCOME MEASURES: The primary outcome was an assessment of on-road ability. Secondary outcomes included measures of response speed, visual scanning, and self-efficacy. All assessments were conducted by assessors blinded to group assignment.RESULTS: No significant difference (P=.223) was found between the intervention and control groups in results of on-road assessment in terms of pass or fail; the primary outcome measure; or the results on the secondary outcome measures of response speed, visual scanning, and self-efficacy.CONCLUSIONS: In this small trial, training underlying skills (such as executing a continuous wide scan, combining motor and visual processing into a motor response) using the Dynavision apparatus did not improve the outcomes of an on-road assessment for people after strokes. Larger trials are needed to evaluate devices that claim to retrain underlying skills related to driving.
Source: Medline

80. Effects of an explicit problem-solving skills training program using a
OBJECTIVE: We investigated the effects of an explicit problem-solving skills training program using a metacomponential approach with 33 outpatients with moderate acquired brain injury, in the Hong Kong context.

METHOD: We compared an experimental training intervention with this explicit problem-solving approach, which taught metacomponential strategies, with a conventional cognitive training approach that did not have this explicit metacognitive training.

RESULTS: We found significant advantages for the experimental group on the Metacomponential Interview measure in association with the explicit metacomponential training, but transfer to the real-life problem-solving measures was not evidenced in statistically significant findings. Small sample size, limited time of intervention, and some limitations with these tools may have been contributing factors to these results.

CONCLUSION: The training program was demonstrated to have a significantly greater effect than the conventional training approach on metacomponential functioning and the component of problem representation. However, these benefits were not transferable to real-life situations.

Source: Medline
Available in fulltext from American Journal of Occupational Therapy at the ULHT Library and Knowledge Services’ eJournal collection

81. An approach to standardize, quantify and record progress of routine upper limb therapy for stroke subjects: the Action Medical Research Upper Limb Therapy protocol.

Author(s) Rosewilliam SB, Bucher C, Rofte C, Pandyan AD
Citation: Hand Therapy, 01 September 2009, vol./is. 14/3(60-68), 17589983
Publication Date: 01 September 2009

Abstract: Introduction. Explicitly describing therapy for research purposes, in terms of content and quantity, improves the validity of research and facilitates evidence-based clinical practice. However, such descriptions are not common in therapy research. The aim was to develop an upper limb therapy protocol which reflected local clinical practice in the stroke unit, and a recording form to document the content, quantity and progression of therapy. Methods. This was a multi-method study. A list of interventions commonly used for the rehabilitation of the stroke upper limb was compiled following a systematic literature search. This was then refined into the Action Medical Research Upper Limb Therapy (AMRULT) protocol in a two-stage process involving a survey and a group discussion. Six physical therapists and three occupational therapists supported its development. The AMRULT protocol was then piloted in a two-arm randomized controlled trial with 90 stroke patients for therapy and recording purposes. Results. The protocol classified therapies based on therapy input as passive, active assisted, active/strengthening and functional. Using this form it was possible to not only summarize the content of therapy but also objectively document progression (e.g. 14% of the participants progressed to functional exercises between the 5th and 8th weeks after stroke onset). Discussion. The AMRULT protocol and associated recording form were useful in both standardizing the delivery and quantification (content and progression) of therapy. While the AMRULT protocol was devised for a specific purpose, the method used can be adapted to develop protocols to support other research studies.

Source: CINAHL

82. Best conventional therapy versus modular impairment-oriented training for arm paresis after stroke: a single-blind, multicenter randomized controlled trial.

Author(s) Platz T, van Kaick S, Mehrholz J, Leidner O, Eickhof C, Pohl M
BACKGROUND: The study investigated whether passive splinting or active motor training as either individualized best conventional therapy or as standardized impairment-oriented training (IOT) would be superior in promoting motor recovery in subacute stroke patients with mildly or severely paretic arms. METHODS: A total of 148 anterior circulation ischemic stroke patients were randomly assigned to 45 minutes of additional daily arm therapy over 3 to 4 weeks as either (a) passive therapy with inflatable splints or active arm motor therapy as either (b) individualized best conventional therapy (CONV) or (c) standardized IOT, that is Arm BASIS training for severe paresis or Arm Ability training for mild paresis. MAIN OUTCOME MEASURES: included the following: Fugl-Meyer arm motor score (severely paretic arms) and the TEMPA time scores (mildly affected arms). Pre-post (immediate effects) and pre-4 weeks follow-up analyses (long-term effects) were performed. RESULTS: Overall improvements were documented (mean baseline and change scores efficacy: Fugl-Meyer, arm motor scores, 24.4, +9.1 points; TEMPA, 119, -26.6 seconds; P < .0001), but with no differential effects between splint therapy and the combined active motor rehabilitation groups. Both efficacy and effectiveness analyses indicated, however, bigger immediate motor improvements after IOT as compared with best conventional therapy (Fugl-Meyer, arm motor scores: IOT +12.3, CONV +9.2 points; TEMPA: IOT -31.1 seconds, CONV -20.5 seconds; P = .0363); for mildly affected patients long-term effects could also be substantiated. CONCLUSIONS: Specificity of active training seemed more important for motor recovery than intensity (therapy time). The comprehensive modular IOT approach promoted motor recovery in patients with either severe or mild arm paresis.

Source: CINAHL

83. Bilateral upper limb training with functional electric stimulation in patients with chronic stroke.

Author(s) Chan MK, Tong RK, Chung KY

BACKGROUND: The recovery rate of upper limb function after stroke is poor when compared with independent walking. Therefore, effective methods are warranted for upper limb rehabilitation. OBJECTIVE: The aim of this study was to investigate the effectiveness of functional electric stimulation (FES) with bilateral activities training on upper limb function. METHODS: This study was a double-blinded randomized controlled trial. Twenty patients were recruited 6 months after the onset of stroke and completed 15 training sessions. Participants were randomly assigned to the FES group or to the control group. Each session consisted of stretching activities (10 minutes), FES with bilateral tasks (20 minutes), and occupational therapy treatment (60 minutes). The participants used a self-trigger mechanism, with an accelerometer as a motion detector, for generating an electric stimulation pattern that was synchronized with the bilateral upper limb activities during the training. The participants in the control group received the same duration of stretching and occupational therapy training except that they just received placebo stimulation with the bilateral tasks. The outcome measures included Functional Test for the Hemiplegic Upper Extremity (FTHUE), Fugl-Meyer Assessment (FMA), grip power, forward reaching distance, active range of motion of wrist extension, Functional Independence Measure, and Modified Ashworth Scale. RESULTS: At baseline comparison, there was no significant difference in both groups. After 15 training sessions, the FES group had significant improvement in FMA (P = .039), FTHUE (P = .001), and active range of motion of wrist extension (P = .020) when compared with the control group. CONCLUSIONS: Bilateral upper limb training with FES could be an effective method for upper limb rehabilitation of stroke patients after 15 training sessions.

Source: CINAHL
84. Bilateral upper limb training with functional electric stimulation in patients with chronic stroke

Author(s) Chan M.K.-L., Tong R.K.-Y., Chung K.Y.-K.

Citation: Neurorehabilitation and Neural Repair, May 2009, vol./is. 23/4(357-365), 1545-9683;1552-6844 (May 2009)

Publication Date: May 2009

Abstract: Background. The recovery rate of upper limb function after stroke is poor when compared with independent walking. Therefore, effective methods are warranted for upper limb rehabilitation. Objective. The aim of this study was to investigate the effectiveness of functional electric stimulation (FES) with bilateral activities training on upper limb function. Methods. This study was a double-blinded randomized controlled trial. Twenty patients were recruited 6 months after the onset of stroke and completed 15 training sessions. Participants were randomly assigned to the FES group or to the control group. Each session consisted of stretching activities (10 minutes), FES with bilateral tasks (20 minutes), and occupational therapy treatment (60 minutes). The participants used a self-trigger mechanism, with an accelerometer as a motion detector, for generating an electric stimulation pattern that was synchronized with the bilateral upper limb activities during the training. The participants in the control group received the same duration of stretching and occupational therapy training except that they just received placebo stimulation with the bilateral tasks. The outcome measures included Functional Test for the Hemiplegic Upper Extremity (FTHUE), Fugl-Meyer Assessment (FMA), grip power, forward reaching distance, active range of motion of wrist extension, Functional Independence Measure, and Modified Ashworth Scale. Results. At baseline comparison, there was no significant difference in both groups. After 15 training sessions, the FES group had significant improvement in FMA (P =.039), FTHUE (P =.001), and active range of motion of wrist extension (P =.020) when compared with the control group. Conclusions. Bilateral upper limb training with FES could be an effective method for upper limb rehabilitation of stroke patients after 15 training sessions.

Source: EMBASE

85. Occupational therapy treatment with right half-field eye-patching for patients with subacute stroke and unilateral neglect: a randomised controlled trial.

Author(s) Tsang MHM, Sze KH, Fong KNK

Citation: Disability & Rehabilitation, 01 April 2009, vol./is. 31/8(630-637), 09638288

Publication Date: 01 April 2009

Abstract: Purpose. The right half-field eye-patching technique has been reported to be effective in reducing unilateral neglect (UN) and improving functional ability in stroke patients. This study investigated the efficacy of conventional treatment with right half-field eye patching in treating subacute stroke patients with UN, using a randomised controlled trial. Method. Thirty-five inpatients with subacute stroke were recruited and randomised into intervention and control groups. The patients in the intervention group received 4 weeks of conventional occupational therapy with modified right half-field eye-patching. Those in the control group received 4 weeks of conventional treatment only. Assessors, who were blind to the treatments, assessed the groups using the Behavioural Inattention Test (BIT) and the Functional Independence Measure (FIM) on admission and at 4 weeks. Results. Patients treated with right half-field eye-patching had significantly (p = 0.046) higher BIT gain (mean = 25.06, SD = 30.81) than those treated with the conventional treatment (mean = 8.29, SD = 10.35). There was no significant difference (p = 0.467) in FIM gain between patients in both groups. Conclusions. Right half-field eye-patching improved stroke patients' impairment level in terms of UN, but the potential benefits in impairment tests were not confirmed by improvements in function.

Source: CINAHL

86. Cognitive strategy use to enhance motor skill acquisition post-stroke: a critical review.
Author(s) McEwen SE, Huijbregts MP, Ryan JD, Polatajko HJ
Citation: Brain Injury, April 2009, vol./is. 23/4(263-77), 0269-9052;1362-301X (2009 Apr)
Publication Date: April 2009

Abstract: OBJECTIVE: The objective of this critical review was to examine the literature regarding the use of cognitive strategies to acquire motor skills in people who have had a stroke, to determine which strategies are in use and to compile evidence of their effectiveness. SEARCH TERMS: A computerized search of a range of databases was conducted using the following search terms: stroke, cerebrovascular accident; combined with strategy training, learning strateg*, cognitive strateg*, metacognitive strateg*, goal setting, goal planning, goal attainment, goal direct*, goal orient*, self talk, imagery, mental practice, self evaluat*, ready*, attentional focus*, problem solv*, goal management; combined with motor, mobility, activit*, skill, task, function, ADL.RESULTS: Twenty-six articles were reviewed. Seven studies investigated general cognitive strategies and 19 investigated task-specific strategies. The most commonly studied task-specific strategy was motor imagery. Findings suggest that general strategy training improves performance in both trained and untrained activities compared to traditional therapy; and that a specific motor imagery protocol can improve mobility and recovery in the affected upper extremity in people living with the chronic effects of stroke.CONCLUSION: This foundational evidence supports the further development of novel cognitive strategy-based interventions with the intention of improving long-term stroke outcomes.

Source: Medline
Available in fulltext from Brain Injury at EBSCOhost

Author(s) McPherson KM, Kayes N, Weatherall M, Members of the Goals-SR Research Group
Citation: Clinical Rehabilitation, April 2009, vol./is. 23/4(296-309), 0269-2155;0269-2155 (2009 Apr)
Publication Date: April 2009

Abstract: OBJECTIVE: To determine the acceptability and clinical application of two recently developed goal-setting interventions (Goal Management Training and Identity Oriented Goal Training) in people with traumatic brain injury.DESIGN: A three parallel group, randomized controlled pilot study.Setting: Inpatient and community rehabilitation facilities.SUBJECTS: Thirty-four people with moderate to severe traumatic brain injury (Goal Management Training, n = 12; Identity Oriented Goal Training, n = 10; usual care, n = 12) and their rehabilitation clinicians.INTERVENTIONS: For both Goal Management Training and Identity Oriented Goal Training participants met face to face with their key worker weekly over a period of 6-8 weeks, during which time the key worker worked to engage them in goal setting and goal performance using the strategy prescribed by their group allocation. Usual care was provided to the other participants.MAIN MEASURES: Largely qualitative using observation, individual interviews and focus groups. Participants also completed a Goal Attainment Scale at baseline, post intervention and at three months follow-up.RESULTS: Both approaches were acceptable to the majority of participants with many reporting improved mood and goal attainment. Clinicians found working in a different way with patients both challenging and rewarding, with both experimental approaches enhancing a focus on the person’s own goals. Identity Oriented Goal Training seemed particularly helpful in engaging people in the goal-setting process while Goal Management Training appeared particularly helpful in providing a structured framework for error prevention in attempting goal performance.CONCLUSION: These theoretically informed approaches to goal setting showed promise but were time intensive and at times difficult for practitioners to utilize.

Source: Medline

88. Constraint-induced therapy versus dose-matched control intervention to improve
motor ability, basic/extended daily functions, and quality of life in stroke.

Author(s) Lin K, Wu C, Liu J, Chen Y, Hsu C

Citation: Neurorehabilitation & Neural Repair, 01 February 2009, vol./is. 23/2(160-165), 15459683

Publication Date: 01 February 2009

Abstract: BACKGROUND: Trials of constraint-induced movement therapy (CIT) to improve upper extremity function after stroke have usually not included an actively treated control group. OBJECTIVE: This study compared a modified CIT intervention with a dose-matched control intervention that included restraint of the less affected hand and assessed for differences in motor and functional performance and health-related quality of life. METHODS: This 2-group randomized controlled trial, using pretreatment and posttreatment measures, enrolled 32 patients within 6 to 40 months after onset of a first stroke (mean age, 55.7 years). They received either CIT ( restraint of the less affected limb combined with intensive training of the affected limb for 2 hours daily 5 days per week for 3 weeks and restraint of the less affected hand for 5 hours outside of the rehabilitation training) or a conventional intervention with hand restraint for the same duration. Outcome measures were the Fugl-Meyer Assessment, Functional Independence Measure, Motor Activity Log, Nottingham Extended Activities of Daily Living Scale, and Stroke Impact Scale. RESULTS: Compared with the control group, the CIT group exhibited significantly better performance in motor function, level of functional independence, mobility of extended activities during daily life, and health-related quality of life after treatment. CONCLUSIONS: The robust effects of this form of CIT were demonstrated in various aspects of outcome, including motor function, basic and extended functional ability, and quality of life.

Source: CINAHL

89. Rehabilitation of Traumatic Brain Injury in Active Duty Military Personnel and Veterans: Defense and Veterans Brain Injury Center Randomized Controlled Trial of Two Rehabilitation Approaches


Citation: Archives of Physical Medicine and Rehabilitation, December 2008, vol./is. 89/12(2227-2238), 0003-9993 (December 2008)

Publication Date: December 2008

Abstract: Vanderploeg RD, Schwab K, Walker WC, Fraser JA, Sigford BJ, Date ES, Scott SG, Curtiss G, Salazar AM, Warden DL, for the Defense and Veterans Brain Injury Center Study Group. Rehabilitation of traumatic brain injury in active duty military personnel and veterans: Defense and Veterans Brain Injury Center randomized controlled trial of two rehabilitation approaches. Objectives: To determine the relative efficacy of 2 different acute traumatic brain injury (TBI) rehabilitation approaches: cognitive didactic versus functional-experiential, and secondarily to determine relative efficacy for different patient subpopulations. Design: Randomized, controlled, intent-to-treat trial comparing 2 alternative TBI treatment approaches. Setting: Four Veterans Administration acute inpatient TBI rehabilitation programs. Participants: Adult veterans or active duty military service members (N=360) with moderate to severe TBI. Interventions: One and a half to 2.5 hours of protocol-specific cognitive-didactic versus functional-experiential rehabilitation therapy integrated into interdisciplinary acute Commission for Accreditation of Rehabilitation Facilities-accredited inpatient TBI rehabilitation programs with another 2 to 2.5 hours daily of occupational and physical therapy. Duration of protocol treatment varied from 20 to 60 days depending on the clinical needs and progress of each participant. Main Outcome Measures: The 2 primary outcome measures were functional independence in living and return to work and/or school assessed by independent evaluators at 1-year follow-up. Secondary outcome measures consisted of the FIM, Disability Rating Scale score, and items from the Present State Exam, Apathy Evaluation Scale, and Neurobehavioral Rating Scale. Results: The cognitive-didactic and functional-experiential treatments did not result in overall group differences in the broad 1-year primary outcomes. However, analysis of secondary outcomes found differentially better immediate posttreatment cognitive function (mean +/- SD cognitive FIM) in participants randomized to cognitive-didactic treatment
(27.3+/−6.2) than to functional treatment (25.6+/−6.0, t<sub>332</sub>=2.56, P=.01). Exploratory subgroup analyses found that younger participants in the cognitive arm had a higher rate of returning to work or school than younger patients in the functional arm, whereas participants older than 30 years and those with more years of education in the functional arm had higher rates of independent living status at 1 year posttreatment than similar patients in the cognitive arm. Conclusions: Results from this large multicenter randomized controlled trial comparing cognitive-didactic and functional-experiential approaches to brain injury rehabilitation indicated improved but similar long-term global functional outcome. Participants in the cognitive treatment arm achieved better short-term functional cognitive performance than patients in the functional treatment arm. The current increase in war-related brain injuries provides added urgency for rigorous study of rehabilitation treatments. (http://ClinicalTrials.gov ID# NCT00540020.).

Source: EMBASE

90. Short- and long-term outcome of constraint-induced movement therapy after stroke: a randomized controlled feasibility trial.

Author(s) Dahl A, Askim T, Stock R, Langørgen E, Lydersen S, Indredavik B

Citation: Clinical Rehabilitation, 01 May 2008, vol./is. 22/5(436-447), 02692155

Publication Date: 01 May 2008

Abstract: Objective: Constraint-induced movement therapy (CIMT) is a method to improve motor function in the upper extremity following stroke. The aim of this trial was to determine the effect and feasibility of CIMT compared with traditional rehabilitation in short and long term. Design: A randomized controlled trial. Setting: An inpatient rehabilitation clinic. Subjects: Thirty patients with unilateral hand impairment after stroke. Intervention: Six hours arm therapy for 10 consecutive weekdays, while using a restraining mitten on the unaffected hand. Main measures: The patients were assessed at baseline, post-treatment and at six-month follow-up using the Wolf Motor Function Test as primary outcome measure and the Motor Activity Log, Functional Independence Measure and Stroke Impact Scale as secondary measurements. Results: The CIMT group (n=18) showed a statistically significant shorter performance time (4.76 seconds versus 7.61 seconds, P= 0.030) and greater functional ability (3.85 versus 3.47, P= 0.037) than the control group (n=12) on the Wolf Motor Function Test at post-treatment assessment. There was a non-significant trend toward greater amount of use (2.47 versus 1.97, P= 0.097) and better quality of movement (2.45 versus 2.12, P=0.105) in the CIMT group according to the Motor Activity Log. No such differences were seen on Functional Independence Measure at the same time. At six-month follow-up the CIMT group maintained their improvement, but as the control group improved even more, there were no significant differences between the groups on any measurements. Conclusions: CIMT seems to be an effective and feasible method to improve motor function in the short term, but no long-term effect was found.

Source: CINAHL

91. A pilot study of activity-based therapy in the arm motor recovery post stroke: A randomized controlled trial

Author(s) Rabadi M.H., Galgano M., Lynch D., Akerman M., Lesser M., Volpe B.T.

Citation: Clinical Rehabilitation, 2008, vol./is. 22/12(1071-1082), 0269-2155 (2008)

Publication Date: 2008

Abstract: Objective: To determine the efficacy of activity-based therapies using arm ergometer or robotic or group occupational therapy for motor recovery of the paretic arm in patients with an acute stroke (<4 weeks) admitted to an inpatient rehabilitation facility, and to obtain information to plan a large randomized controlled trial. Design: Prospective, randomized controlled study. Setting: Stroke unit in a rehabilitation hospital. Subjects: Thirty patients with an acute stroke (<4 weeks) who had arm weakness (Medical Research Council grade 2 or less at the shoulder joint). Intervention: Occupational therapy (OT) group (control) (n = 10), arm ergometer (n = 10) or robotic (n = 10) therapy group. All patients received standard, inpatient, post-stroke rehabilitation training for 3 hours a day, plus 12 additional 40-minute sessions of the activity-based therapy. Main measures: The
primary outcome measures were discharge scores in the Fugl-Meyer Assessment Scale for upper limb impairment, Motor Status Scale, total Functional Independence Measure (FIM) and FIM-motor and FIM-cognition subscores. Results: The three groups (OT group versus arm ergometer versus robotic) were comparable on clinical demographic measures except the robotic group was significantly older and there were more haemorrhagic stroke patients in the arm ergometer group. After adjusting for age, stroke type and outcome measures at baseline, a similar degree of improvement in the discharge scores was found in all of the primary outcome measures. Conclusion: This study suggests that activity-based therapies using an arm ergometer or robot when used over shortened training periods have the same effect as OT group therapy in decreasing impairment and improving disability in the paretic arm of severely affected stroke patients in the subacute phase. 2008 SAGE Publications.

Source: EMBASE

92. Effects of modified constraint-induced movement therapy on reach-to-grasp movements and functional performance after chronic stroke: a randomized controlled study.

Author(s) Lin K, Wu C, Wei T, Lee C, Liu J

Citation: Clinical Rehabilitation, 01 December 2007, vol./is. 21/12(1075-1086), 02692155

Publication Date: 01 December 2007

Abstract: Objective: To evaluate changes in (1) motor control characteristics of the hemiparetic hand during the performance of a functional reach-to-grasp task and (2) functional performance of daily activities in patients with stroke treated with modified constraint-induced movement therapy. Design: Two-group randomized controlled trial with pretreatment and posttreatment measures. Setting: Rehabilitation clinics. Subjects: Thirty-two chronic stroke patients (21 men, 11 women; mean age=57.9 years, range=43-81 years) 13-26 months (mean 16.3 months) after onset of a first-ever cerebrovascular accident. Intervention: Thirty-two patients were randomized to receive modified constraint-induced movement therapy (restraint of the unaffected limb combined with intensive training of the affected limb) or traditional rehabilitation for three weeks. Main measures: Kinematic analysis was used to assess motor control characteristics as patients reached to grasp a beverage can. Functional outcomes were evaluated using the Motor Activity Log and Functional Independence Measure. Results: There were moderate and significant effects of modified constraint-induced movement therapy on some aspects of motor control of reach-to-grasp and on functional ability. The modified constraint-induced movement therapy group preplanned reaching and grasping (P=0.018) more efficiently and depended more on the feedforward control of reaching (P=0.046) than did the traditional rehabilitation group. The modified constraint-induced movement therapy group also showed significantly improved functional performance on the Motor Activity Log (P<0.0001) and the Functional Independence Measure (P=0.016). Conclusions: In addition to improving functional use of the affected arm and daily functioning, modified constraint-induced movement therapy improved motor control strategy during goal-directed reaching, a possible mechanism for the improved movement performance of stroke patients undergoing this therapy.

Source: CINAHL

Available in print at Lincoln County Hospital Professional Library


Citation: BMJ: British Medical Journal (International Edition), 03 November 2007, vol./is. 335/7626(922-922), 09598146

Publication Date: 03 November 2007

Source: CINAHL

Available in print at Pilgrim Hospital Staff Library
94. Does the use of a constraint mitten to encourage use of the hemiplegic upper limb improve arm function in adults with subacute stroke?

Author(s) Burns A, Burridge J, Pickering R, Turk R

Citation: Clinical Rehabilitation, 01 October 2007, vol./is. 21/10(895-904), 02692155

Publication Date: 01 October 2007

Abstract: Objective: To evaluate the effect of a constraint mitten, worn on the unaffected upper limb, on the arm and hand function of participants with hemiplegia. To estimate the sample size for a future trial. Design: An A-B-A design. Setting: Inpatient, outpatient and domiciliary setting. Subjects: Ten participants with mild to moderate residual upper limb hemiparesis, between 1 and 12 months post stroke. Intervention: Following a two-week baseline period, 10 participants were advised to wear the constraint mitten on the unaffected upper limb for 9 waking hours/day for two weeks to encourage use of the hemiplegic arm. Existing levels of therapy continued during the whole study. Main measures: The primary outcome measure was the Action Research Arm Test. At the end of the intervention phase participants completed a questionnaire. Participants also recorded their daily use of the constraint mitten during the intervention phase. Results: A mean improvement in the Action Research Arm Test score of 4.0 points (95% confidence interval 1.7 to 6.2; \( P = 0.016 \)) was found during the intervention phase after correcting for background recovery. Mean compliance was 6.7 hours/day (74%), 90% of participants were positive about the intervention and would recommend the treatment to other stroke survivors, although 50% were relieved to stop the mitten-wearing phase. Conclusions: The use of a constraint mitten in upper limb stroke rehabilitation may be a useful adjunct to enhance functional recovery with minimal additional resources. The positive findings from this preliminary study warrant a larger randomized controlled trial of 200 participants in total.

Source: CINAHL

95. Repetitive transcranial magnetic stimulation as an adjunct to constraint-induced therapy: an exploratory randomized controlled trial.

Author(s) Malcolm MP, Triggs WJ, Light KE, Rothi LJG, Wu S, Reid K, Nadeau SE

Citation: American Journal of Physical Medicine & Rehabilitation, 01 September 2007, vol./is. 86/9(707-715), 08949115

Publication Date: 01 September 2007

Abstract: OBJECTIVE: To test the potential adjuvant effect of repetitive transcranial magnetic stimulation (rTMS) on motor learning in a group of stroke survivors undergoing constraint-induced therapy (CIT) for upper-limb hemiparesis. DESIGN: This was a prospective randomized, double-blind, sham-controlled, parallel group study. Nineteen individuals, one or more years poststroke, were randomized to either a rTMS + CIT (\( n = 9 \)) or a sham rTMS + CIT (\( n = 10 \)) group and participated in the 2-wk intervention. RESULTS: Regardless of group assignment, participants demonstrated significant gains on the primary outcome measures: the Wolf Motor Function Test (WMFT) and the Motor Activity Log (MAL)--Amount of Use, and on secondary outcome measures including the Box and Block Test (BBT) and the MAL--How Well. Participants receiving rTMS failed to show differential improvement on either primary outcome measure. CONCLUSIONS: Although this study provided further evidence that even relatively brief sessions of CIT can have a substantial effect, it provided no support for adjuvant use of rTMS.

Source: CINAHL

96. A pilot randomized controlled trial of community-based occupational therapy in
late stroke rehabilitation.

Author(s) Egan M, Kessler D, Laporte L, Metcalfe V, Carter M

Citation: Topics in Stroke Rehabilitation, 01 September 2007, vol./is. 14/5(37-45), 10749357

Publication Date: 01 September 2007

Abstract: Chronic participation deficits are common following stroke. We hypothesized that a brief period of occupation-focused, client-centered occupational therapy would lead to improved participation in valued activities for individuals who had experienced strokes 6 or more months previously. Sixteen individuals were randomized to the intervention or no-treatment control group. All participants identified up to five activities in which they wished to improve. Following intervention, both groups rated their performance of these activities similarly. However, those who received the intervention rated their satisfaction with these activities significantly higher than did the participants who did not receive the occupational therapy intervention. There were no differences between postintervention measures of well-being or overall participation. Further evaluation of such a program of late stroke rehabilitation is recommended.

Source: CINAHL

97. Motor learning and the use of videotape feedback after stroke.

Author(s) Gilmore PE, Spaulding SJ

Citation: Topics in Stroke Rehabilitation, September 2007, vol./is. 14/5(28-36), 1074-9357;1074-9357 (2007 Sep-Oct)

Publication Date: September 2007

Abstract: BACKGROUND: Efforts have been made to apply motor learning theories to the rehabilitation of individuals following stroke. Motor learning poststroke has not been well investigated in the literature. This research attempted to fill the gap regarding motor learning applied to practice. PURPOSE: This two-group research study attempted to determine the effectiveness of an experimental therapy combining videotape feedback with occupational therapy compared to only occupational therapy in learning the motor skill of donning socks and shoes after stroke. METHOD: Ten participants were randomly assigned to one of the two groups and all participants were videotaped during pretest and up to 10 treatment sessions aimed at donning socks and shoes. Only one group viewed their videotape replay. The acquisition of donning socks and shoes was measured using the socks and shoes subtests of the Klein-Bell Activities of Daily Living Scale and their scores on the Canadian Occupational Performance Measure. RESULTS: There was no significant difference between the two groups and both groups improved. However, the group that received videotape feedback thought they performed better and were more satisfied with their ability to don shoes, lending support for the use of videotape feedback poststroke to improve satisfaction with performance.

Source: Medline


Author(s) Menon-Nair A, Korner-Bitensky N, Ogourtsova T

Citation: Stroke, September 2007, vol./is. 38/9(2556-62), 0039-2499;1524-4628 (2007 Sep)

Publication Date: September 2007

Abstract: BACKGROUND AND PURPOSE: Unilateral spatial neglect (USN) is a disabling feature of stroke, and its identification and management are critical for optimizing patient outcomes. This study examined USN problem identification, assessment, and treatment among clinicians working in stroke rehabilitation. METHODS: This report was based on a Canada-wide survey of 253 occupational therapists providing inpatient stroke rehabilitation. RESULTS: Eighty percent (n=202) recognized USN as a potential problem, 27% (n=67) reported using standardized USN assessment tools, and 58% (n=147)
indicated using USN interventions. Working on a stroke unit and younger age were among the variables explaining 7% to 19% of the variability in USN problem identification, assessment, and intervention use. CONCLUSIONS: Although USN problem identification was high, clinicians were unlikely to use standardized assessment tools or evidence-based interventions to effectively manage this serious impairment.

Source: Medline

Available in fulltext from Stroke at Highwire Press
Available in fulltext from Stroke at the ULHT Library and Knowledge Services’ eJournal collection

99. Actual vs best practice for families post-stroke according to three rehabilitation disciplines.

Author(s) Rochette A, Korner-Bitensky N, Desrosiers J

Citation: Journal of Rehabilitation Medicine, September 2007, vol./is. 39/7(513-9), 1650-1977;1650-1977 (2007 Sep)

Publication Date: September 2007

Abstract: OBJECTIVE: To investigate occupational therapists’, physiotherapists’ and speech language pathologists’ family-related rehabilitation practice post-stroke and its association with clinician and environmental variables. METHODS: A Canadian cross-sectional telephone survey was conducted on 1755 clinicians. Three case studies describing typical patients after stroke receiving acute care, in-patient rehabilitation, or community rehabilitation, and including specific descriptors regarding family stress and concern, were used to elicit information on patient management. RESULTS: One-third of the sample identified a family-related problem and offered a related intervention, but only 12/1755 clinicians indicated that they would typically use a standardized assessment of family functioning. Working in the community out-patient setting was associated (OR 9.16), whereas working in a rehabilitation in-patient setting was negatively associated (OR 0.58) with being a problem identifier, the reference group being acute care. Being a PT (OR 0.53) or an SLP (OR 0.49) vs an OT was negatively associated with being a problem identifier, whereas being older (OR 1.02) or working in Ontario (OR 1.58) was associated with being a problem identifier. To work in a community out-patient setting (OR 2.43), being older clinicians (OR 1.02) or not perceiving their work environment being supportive of an ongoing professional learning (OR 1.72) was associated with being an intervention user, whereas being a PT (OR 0.50) was negatively associated with being a user. CONCLUSION: For these 3 disciplines, the prevalence of a family-related focus is low post-stroke. Given the increasing evidence regarding the effectiveness of family-related interventions on stroke outcomes, it is imperative that best practice is implemented.

Source: Medline

100. Treatment to improve self-awareness in persons with acquired brain injury.

Author(s) Goverover Y, Johnston MV, Toglia J, Deluca J

Citation: Brain Injury, August 2007, vol./is. 21/9(913-23), 0269-9052;0269-9052 (2007 Aug)

Publication Date: August 2007

Abstract: AIM: To examine the effects of an awareness training protocol embedded within the practice of instrumental activities of daily living (IADLs) in participants with acquired brain injury on levels of self-awareness and functional performance. METHODS: This study used a randomized control trial design: 10 participants with moderate-to-severe brain injury received six sessions of the self-awareness training while they performed IADLs (experimental group) and 10 participants performed the same IADLs but received conventional therapeutic practice (control group). In the experimental group, participants were asked to predict their performance before each task performance and to estimate their performance level after the performance. OUTCOME MEASURES: Pre- and post-intervention outcome measures taken from the two groups were compared. Instruments were standardized measures of ‘general’ self-awareness with collateral reports by
informants (e.g. Awareness Questionnaire); 'task-specific' self-awareness (e.g. Assessment of Awareness of Disability) and Self-Regulation Skills Inventory (SRSI). Performance on IADLs was assessed using the Assessment of Motor and Process Skills (AMPS).

RESULTS: Compared to the control group, the intervention significantly improved IADL performances and self-regulation. No significant treatment effect was observed for task-specific self-awareness, general self-awareness or community integration.

CONCLUSIONS: The self-awareness intervention significantly but selectively improved self-awareness during IADL task performance as well as functional performance. The need for a larger study with more treatment sessions is discussed.

Source: Medline
Available in fulltext from Brain Injury at EBSCOhost

101. The Constraint Induced Movement Therapy: a systematic review of randomised controlled trials on the adult stroke patients.

Author(s) Bonaiuti D, Rebasti L, Sioli P

Citation: Europa Medicophysica, 01 June 2007, vol./is. 43/2(139-146), 00142573

Publication Date: 01 June 2007

Abstract: AIM: The aim of this study was to analyse the evidence of effectiveness on adult stroke patients of the Constraint Induced Movement Therapy (CIMT), an original rehabilitation method that consists in strongly encouraging patients to use the affected arm, mainly immobilising the unaffected arm. METHODS: We only took into account the randomised controlled trials on CIMT where the experimental treatment was compared with a conventional treatment without any discrepancy of organization or session duration. As we could not measure the statistical significance of differences between treated and control patients, we compared their respective post-treatment percent changes and computed the minimal clinically important difference (MCID), defined as a change of at least 10% of the maximum score of the scale used. RESULTS: The literature search found 13 randomised controlled trials (RCTs), 4 of which were excluded because they aimed at comparing different intensity of CIMT. The 9 RCTs finally included into the review applied the CIMT in either acute, subacute or chronic stroke patients and according to different modalities. Findings were positive in all studies, but the MCID was reached only in smaller ones, which may have been influenced by patients' characteristics. CONCLUSION: Although all studies achieved positive results, it is impossible to draw any cut conclusion on the effectiveness of the CIMT. The main limitations are the lack of homogeneity in the outcome measures used, the inadequacy of data provided and the small samples' size. Multicentre studies, using robust outcome measures and considering both motor- and sensory-disabled patients are needed.

Source: CINAHL

102. Does intensive rehabilitation improve the functional outcome of patients with traumatic brain injury (TBI)? A randomized controlled trial

Author(s) Zhu X.L., Poon W.S., Chan C.C.H., Chan S.S.H.

Citation: Brain Injury, June 2007, vol./is. 21/7(681-690), 0269-9052;1362-301X (June 2007)

Publication Date: June 2007

Abstract: Objective: To evaluate the effects of an increase in the intensity of rehabilitation on the functional outcome of patients with traumatic brain injury (TBI). Design and methods: Sixty-eight patients (age 12-65years) with moderate-to-severe TBI were included. They were randomized into high (4-hour/day) or control (2-hour/day) intensity rehabilitation programmes at an average of 20 days after the injury. The programmes ended when the patients achieved independence in daily activities or when 6 months had passed. Outcome and results: No significant differences were found in the Functional Independence Measure (FIM) (primary outcome) and Neurobehavioural Cognitive Status Examination (NCSE) total scores between the two groups. There were significantly more patients in the high intensity group than in the control group who achieved a maximum FIM total score at the third month.
Conclusions: Early intensive rehabilitation may improve the functional outcome of patients with TBI in the early months post-injury and hence increase the chance of their returning to work early. Intensive rehabilitation in this study speeded up recovery rather than changed the final outcome.

Source: EMBASE
Available in fulltext from Brain Injury at EBSCOhost

103. Additional therapeutic effects of electroacupuncture in conjunction with conventional rehabilitation for patients with first-ever ischaemic stroke

Author(s) Hsieh R.-L., Wang L.-Y., Lee W.-C.
Citation: Journal of Rehabilitation Medicine, April 2007, vol./is. 39/3(205-211), 1650-1977 (April 2007)
Publication Date: April 2007
Abstract: Objective: This study examined the additional therapeutic effects of electroacupuncture for patients with first-ever ischaemic stroke. Design: Randomized controlled study. Subjects: A total of 63 patients with first-ever ischaemic stroke. Methods: The study and control groups underwent a conventional rehabilitation program, with the former receiving an additional 8 courses of electroacupuncture over a period of one month. Therapeutic effects were assessed by the Fugl-Meyer Assessment for motor performance and the Functional Independence Measure (FIM) for the independence of functional performance at 2 and 4 weeks after treatment, and 3 months and 6 months after stroke. Results: For total Fugl-Meyer Assessment score, improvement was more significant for the study group relative to the control group at 2 weeks (16.2 vs 10.6; p = 0.047) and 4 weeks after treatment (27.4 vs 17.1; p = 0.005), and at 3 months after the stroke (34.7 vs 21.8; p = 0.009). The Fugl-Meyer Assessment scores improved significantly, especially in upper-limb motor function for the study group. There was no statistically significant between-group difference in total FIM score improvement. Conclusion: Electroacupuncture can improve motor function, especially in upper-limb motor function, for patients with first-ever ischaemic stroke. 2007 Foundation of Rehabilitation Information.

Source: EMBASE

104. A Randomized Controlled Trial of Modified Constraint-Induced Movement Therapy for Elderly Stroke Survivors: Changes in Motor Impairment, Daily Functioning, and Quality of Life

Author(s) Wu C.-y., Chen C.-l., Tsai W.-c., Lin K.-c., Chou S.-h.
Citation: Archives of Physical Medicine and Rehabilitation, March 2007, vol./is. 88/3(273-278), 0003-9993 (March 2007)
Publication Date: March 2007
Abstract: Wu C-Y, Chen C-L, Tsai W-C, Lin K-C, Chou S-H. A randomized controlled trial of modified constraint-induced movement therapy for elderly stroke survivors: changes in motor impairment, daily functioning, and quality of life. Objective: To examine the benefits of modified constraint-induced movement therapy (mCIMT) on motor function, daily function, and health-related quality of life (HRQOL) in elderly stroke survivors. Design: Two-group randomized controlled trial, with pretreatment and posttreatment measures. Setting: Rehabilitation clinics. Participants: Twenty-six elderly stroke patients (mean age, 72y) with 0.5 to 31 months postonset of a first-ever cerebrovascular accident. Interventions: Twenty-six patients received either mCIMT (restriction of the unaffected limb combined with intensive training of the affected limb) or traditional rehabilitation for a period of 3 weeks. Main Outcome Measures: Outcome measures included the Fugl-Meyer Assessment (FMA), FIM instrument, Motor Activity Log (MAL), and Stroke Impact Scale (SIS). The FMA evaluated the severity of motor impairment; the FIM instrument and MAL reported daily function; and the SIS detected HRQOL. Results: The mCIMT group exhibited significantly greater improvements in motor function, daily function, and the physical domain of HRQOL than
the traditional rehabilitation group. Patients in the mCIMT group perceived significantly greater percent of recovery after treatment than patients in the traditional rehabilitation group. Conclusions: These findings suggest mCIMT is a promising intervention for improving motor function, daily function, and physical aspects of HRQOL in elderly patients with stroke. The mCIMT was well tolerated by the elderly patients even though it is a rigorous training program. 2007 American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation.

Source: EMBASE

105. Mild traumatic brain injuries: The impact of early intervention on late sequelae. A randomized controlled trial

Author(s) Elgmark Andersson E., Emanuelson I., Bjorklund R., Stalhammar D.A.

Citation: Acta Neurochirurgica, February 2007, vol./is. 149/2(151-159), 0001-6268;0942-0940 (February 2007)

Publication Date: February 2007

Abstract: Background. Positive results from early clinical intervention of mild traumatic brain injury (MTBI) patients by rehabilitation specialists have been reported. Various treatments have been used, but few controlled studies are published. We hypothesised that early rehabilitation of selected MTBI patients would reduce long term sequelae. Method. A randomised controlled trial with one year follow-up. Among 1719 consecutive patients with MTBI, 395 individuals, 16-60 years of age, met the MTBI definition. Exclusion criteria were: previous clinically significant brain disorders and/or a history of substance abuse. The control group (n = 131) received regular care. The intervention group (n = 264) was examined by a rehabilitation specialist. 78 patients were mainly referred to an occupational therapist. The problems were identified in daily activities and in terms of post-concussion symptoms (PCS), an individualised, tailored treatment was given. Primary endpoint was change in rate of PCS and in life satisfaction at one-year follow-up between the groups. Findings. No statistical differences were found between the intervention and control groups. Patients who experienced few PCS two to eight weeks after the injury and declined rehabilitation recovered and returned to their pre-injury status. Patients who suffered several PCS and accepted rehabilitation did not recover after one year. Interpretation. In this particular MTBI sample, early active rehabilitation did not change the outcome to a statistically-significant degree. Further studies should focus on patients with several complaints during the first 1-3 months and test various types of interventions. 2007 Springer-Verlag.

Source: EMBASE

Available in fulltext from Acta Neurochirurgica at EBSCOhost


Citation: Brain Injury, 01 February 2007, vol./is. 21/2(133-160), 02699052

Publication Date: 01 February 2007

Abstract: Objective: We sought to investigate the efficacy of treatment strategies used to manage motor impairments following acquired brain injury (ABI) in order to provide guidance for clinical practice based on the best available evidence. Methods and main outcomes: A systematic review of the literature from 1980-2005 was conducted focusing on pharmacological, non-pharmacological, and exercise interventions available for motor impairments post ABI. The efficacy of a given intervention was classified as strong (supported by two or more randomized controlled trials (RCTs)), moderate (supported by a single RCT), or limited (supported by other types of studies in the absence of RCTs). Results: Thirty-six studies examining a variety of treatment approaches for motor impairments and activity limitations following ABI were evaluated. The majority of interventions are only supported by limited evidence. However, there is strong evidence that serial casting does reduce ankle plantar contractures due to spasticity of cerebral
origin, and strong evidence also suggests that partial body weight supported gait training does not provide any added benefit over conventional gait training. There is also moderate evidence to support the use of functional fine motor control retraining to improve motor coordination, tizanidine for upper and lower extremity spasticity, and specific sit-to-stand training to improve functional ability. There is also moderate evidence that casting alone is as effective as casting and Botulinum toxin injections for plantar contractures. Conclusions: Although there are a variety of treatment strategies to manage motor impairments and activity limitations following ABI, most are only supported by limited evidence pointing to the need for studies of improved methodological quality in this area.

Source: CINAHL
Available in fulltext from Brain Injury at EBSCOhost


Author(s) Elgmark Andersson E, Emanuelson I, Bjorklund R, Stalhammar DA
Citation: Acta Neurochirurgica, February 2007, vol./is. 149/2(151-9; discussion 160), 0001-6268:0001-6268 (2007 Feb)
Publication Date: February 2007
Abstract: BACKGROUND: Positive results from early clinical intervention of mild traumatic brain injury (MTBI) patients by rehabilitation specialists have been reported. Various treatments have been used, but few controlled studies are published. We hypothesised that early rehabilitation of selected MTBI patients would reduce long term sequelae. METHOD: A randomised controlled trial with one year follow-up. Among 1719 consecutive patients with MTBI, 395 individuals, 16-60 years of age, met the MTBI definition. Exclusion criteria were: previous clinically significant brain disorders and/or a history of substance abuse. The control group (n = 131) received regular care. The intervention group (n = 264) was examined by a rehabilitation specialist. 78 patients were mainly referred to an occupational therapist. The problems were identified in daily activities and in terms of post-concussion symptoms (PCS), an individualised, tailored treatment was given. Primary endpoint was change in rate of PCS and in life satisfaction at one-year follow-up between the groups. FINDINGS: No statistical differences were found between the intervention and control groups. Patients who experienced few PCS two to eight weeks after the injury and declined rehabilitation recovered and returned to their pre-injury status. Patients who suffered several PCS and accepted rehabilitation did not recover after one year. INTERPRETATION: In this particular MTBI sample, early active rehabilitation did not change the outcome to a statistically-significant degree. Further studies should focus on patients with several complaints during the first 1-3 months and test various types of interventions.

Source: Medline
Available in fulltext from Acta Neurochirurgica at EBSCOhost

108. Little therapy, little physical activity: rehabilitation within the first 14 days of organized stroke unit care.

Author(s) Bernhardt J, Chan J, Nicola I, Collier JM
Citation: Journal of Rehabilitation Medicine (Stiftelsen Rehabiliteringsinformation), 01 January 2007, vol./is. 39/1(43-48), 16501977
Publication Date: 01 January 2007
Abstract: OBJECTIVE: To examine rehabilitation interventions and resulting physical activity patterns of patients managed in acute stroke units to help inform development of a randomized controlled trial of very early rehabilitation. DESIGN: An open observational study of patient activity and therapist report of patient interventions. A survey of stroke unit resources. METHODS: Patients less than 14 days post-stroke from 5 metropolitan stroke units were observed over 2 consecutive weekdays at 10-minute intervals between 08.00 h and 17.00 h. Physical activity, location and person(s) present were ascertained at each observation. Therapists completed treatment records. Senior staff completed stroke unit
surveys. RESULTS: Patients after stroke (n=58) were with therapists 5.2% of the observed day. Few patients (17.1%) received daily therapy by more than one therapist. When patients received therapy, average session times were 24 minutes of physiotherapy, 23 minutes of occupational therapy and 33 minutes of speech pathology. The more time that family members were present, the longer the treatment time. Four to 11 min of upper-limb therapy was provided. Muscle weakness and left hemiparesis were associated with less upper-limb activity. CONCLUSION: These acute stroke care units were resourced according to recommended staff-patient ratios. Patients received little therapy and had low levels of physical activity.

Source: CINAHL


Author(s) Boake C, Noser EA, Ro T, Baraniuk S, Gaber M, Johnson R, Salmeron ET, Tran TM, Lai JM, Taub E, Moye LA, Grotta JC, Levin HS

Citation: Neurorehabilitation & Neural Repair, 01 January 2007, vol./is. 21/1(14-24), 15459683

Publication Date: 01 January 2007

Abstract: BACKGROUND: Limited data are available about the effectiveness of early rehabilitation after stroke. OBJECTIVE: This is the 1st randomized controlled trial of constraint-induced movement therapy (CIMT) in subacute stroke to investigate neurophysiologic mechanisms and long-term outcome. METHODS: Within 2 weeks after stroke, 23 patients with upper extremity (UE) weakness were randomized to 2 weeks of CIMT or traditional therapy at an equal frequency of up to 3 h/day. Motor function of the affected UE was blindly assessed before treatment, after treatment, and 3 months after stroke. Transcranial magnetic stimulation (TMS) measured the cortical area evoking movement of the affected hand. RESULTS: Long-term improvement in motor function of the affected UE did not differ significantly between patients who received CIMT versus intensive traditional therapy. All outcome comparisons showed trends favoring CIMT over intensive traditional therapy, but none was statistically significant except for improvements in the Fugl-Meyer (FM) UE motor scale immediately following treatment and in reported quality of hand function at 3 months. Improvement in UE motor function on the FM was associated with a greater number of sites on the affected cerebral hemisphere where responses of the affected hand were evoked by TMS. CONCLUSIONS: Future trials of CIMT during early stroke rehabilitation need greater statistical power, more inclusive eligibility criteria, and improved experimental control over treatment intensity. The relationship between changes in motor function and in evoked motor responses suggests that motor recovery during the 1st 3 months after stroke is associated with increased motor excitability of the affected cerebral hemisphere.

Source: CINAHL

110. Effects of splinting on wrist contracture after stroke: a randomized controlled trial.

Author(s) Lannin NA, Cusick A, McCluskey A, Herbert RD

Citation: Stroke (00392499), 01 January 2007, vol./is. 38/1(111-116), 00392499

Publication Date: 01 January 2007

Abstract: BACKGROUND AND PURPOSE: Splints are commonly applied to the wrist and hand to prevent and treat contracture after stroke. However, there have been few randomized trials of this intervention. We sought to determine whether wearing a hand splint, which positions the wrist in either a neutral or an extended position, reduces wrist contracture in adults with hemiplegia after stroke. METHODS: Sixty-three adults who had experienced a stroke within the preceding 8 weeks participated. They were randomized to either a control group (routine therapy) or 1 of 2 intervention groups (routine therapy plus splint in either a neutral or an extended wrist position). Splints were worn overnight for, on average, between 9 and 12 hours, for 4 weeks. The primary outcome, measured by a blinded assessor, was extensibility of the wrist and long finger flexor muscles (angle of wrist extension at a standardized torque). RESULTS: Neither splint appreciably increased
extensibility of the wrist and long finger flexor muscles. After 4 weeks, the effect of neutral wrist splinting was to increase wrist extensibility by a mean of 1.4 degrees (95% CI, -5.4 degrees to 8.2 degrees), and splinting the wrist in extension reduced wrist extensibility by a mean of 1.3 degrees (95% CI, -4.9 degrees to 2.4 degrees) compared with the control condition. CONCLUSIONS: Splinting the wrist in either the neutral or extended wrist position for 4 weeks did not reduce wrist contracture after stroke. These findings suggest that the practice of routine wrist splinting soon after stroke should be discontinued.

Source: CINAHL
Available in fulltext from Stroke at Highwire Press
Available in fulltext from Stroke at the ULHT Library and Knowledge Services’ eJournal collection

111. Does a short period of rehabilitation in the home setting facilitate functioning after stroke? A randomized controlled trial [corrected] [published erratum appears in CLIN REHABIL 2007 Mar;21(3):287].

Author(s) Björkdahl A, Nilsson AL, Grimby G, Sunnerhagen KS
Citation: Clinical Rehabilitation, 01 December 2006, vol./is. 20/12(1038-1049), 02692155
Publication Date: 01 December 2006
Abstract: Objective: To assess the effect of three weeks of rehabilitation in the home setting for younger patients with stroke with the aim of improving activity level. Design: A randomized controlled study with blinded evaluations at discharge, three weeks, three months and one year after discharge. Setting: Home of the patient or the ordinary day rehabilitation clinic at the university hospital. Subjects: Fifty-eight patients (median age 53 years) consecutively discharged from inpatient rehabilitation with a first occurrence of stroke participated in training directly after discharge. Intervention: Rehabilitation was given for 9 hours/week over three weeks. The home group received individually tailored training, based on the patient's needs and desires, with a focus on activities in their natural context. Support and information were also given. The intervention in the day clinic group was aimed mainly at improved functions. Main measures: The main outcome was activity, assessed with the Assessment of Motor and Process Skill (AMPS). The impairment level was also evaluated. Costs were estimated. Result: There were no significant differences between the groups on any of the four assessments. However, there seemed to be an earlier improvement on some measures (including AMPS) for the home group. For both groups there was a greater improvement on the activity level than on the impairment level. The costs of the home group were less than half of the costs of the day clinic group. Conclusion: With the present results, both rehabilitation programmes could be recommended, however, further studies are needed to define patients who may specifically benefit from the home rehabilitation programme. Costs should be taken into consideration.

Source: CINAHL
Available in print at Lincoln County Hospital Professional Library

112. [Effects study of standardized tertiary rehabilitation on promoting of the neurological functions in stroke patients with hemiplegia].

Author(s) Research Group of the Standardized Tertiary Rehabilitation Program in Cerebral Diseases’ Patients
Citation: Chung-Hua i Hsueh Tsa Chih [Chinese Medical Journal], October 2006, vol./is. 86/37(2621-6), 0376-2491;0376-2491 (2006 Oct 10)
Publication Date: October 2006
Abstract: OBJECTIVE: To investigate the effects of standardized tertiary rehabilitation (STR) on promotion of the neurological functions in stroke patients with hemiplegia.METHODS: A large-sample, multi-center, randomized, controlled prospective study was conducted nationwide. 1209 stroke patients with hemiplegia, aged 40 - 80, within 11 d +/- 5 d after the onset, stabilized in vital life signs in the past one week, of 20 hospitals affiliated to medical colleges or of hospitals at the provincial level in mainland China were
randomly allocated to one of the 2 baseline data-matched groups: control group (n = 599, 446 with cerebral infarction and 153 with cerebral hemorrhage) receiving routine intervention of internal medicine, and STR group (n = 610, 455 with cerebral infarction and 155 with cerebral hemorrhage), receiving routine intervention and STR including physical therapy and occupational therapy (OT) in addition. Evaluation was conducted by the time of enrollment, and by the ends of the first, third, and sixth months by the national clinical neurological function defects (CNFD) scoring.

RESULTS: There were no significant differences in the baseline indexes between these 2 groups. The scores of CNFD at enrollment of the patients with cerebral infarction in the STR group was 21.55, not significantly different from that of the patients with cerebral infarction in the control group (22.16), however, the scores of these patients with cerebral infarction in the STR group by the ends of the first, third, and sixth months were 16.32, and 11.48, and 8.63 respectively, all significantly lower than those of the corresponding patients in the control group (18.95, 15.57, and 13.78 respectively, all P < 0.01). The CNFD score at enrollment of the patients with cerebral hemorrhage in the STR group was 23.27, not significantly different from that of the corresponding patients in the control group (24.36), however, the scores of the patients with cerebral hemorrhage in the STR group by the ends of the first, third, and sixth months were 17.61, 11.20, and 7.95 respectively, all significantly lower than those of the corresponding patients in the control group (20.36, 15.01, and 13.57 respectively, all P < 0.01). By the end of the sixth month, the CNFD score of the cerebral infarction and hemorrhage patients in the STR group were improved by 12.79 and 15.23, both higher than the corresponding patients in the control group (8.30 and 10.65 respectively). The trend of decrease of CNFD score moved faster in the STR group than in the control group, especially at the early stage.

CONCLUSION: STR significantly helps improved the neurological function in the patients with cerebral stroke accompanied with hemiplegia.

Source: Medline

113. Cluster randomized pilot controlled trial of an occupational therapy intervention for residents with stroke in UK care homes.

Author(s) Sackley C, Wade DT, Mant D, Atkinson JC, Yudkin P, Cardoso K, Levin S, Lee VB, Reel KCitation: Stroke (00392499), 01 September 2006, vol./is. 37/9(2336-2341), 00392499

Publication Date: 01 September 2006

Abstract: BACKGROUND AND PURPOSE: A pilot evaluation of an occupational therapy intervention to improve self-care independence for residents with stroke-related disability living in care homes was the basis of this study. METHODS: A cluster randomized controlled trial with care home as the unit of randomization was undertaken in Oxfordshire, UK. Twelve homes (118 residents) were randomly allocated to either intervention (6 homes, 63 residents) or control (6 homes, 55 residents). Occupational therapy was provided to individuals but included carer education. The control group received usual care. Assessments were made at baseline, postintervention (3 months) and at 6-months to estimate change using the Barthel Activity of Daily Living Index (BI) scores, "poor global outcome", (defined as deterioration in BI score, or death) and the Rivermead Mobility Index. RESULTS: At 3 months BI score in survivors had increased by 0.6 (SD 3.9) in the intervention group and decreased by 0.9 (2.2) in the control group; a difference of 1.5 (95% CI allowing for cluster design, -0.5 to 3.5). At 6 months the difference was 1.9 (-0.7 to 4.4). Global poor outcome was less common in the intervention group. At 3 months, 20/63 (32%) were worse/dead in the intervention group compared with 31/55 (56%) in the control group, difference -25% (-51% to 1%). At 6 months the difference was similar, -26% (-48% to -3%). Between-group changes in Rivermead Mobility Index scores were not significantly different. CONCLUSIONS: Residents who received an occupational therapy intervention were less likely to deteriorate in their ability to perform activities of daily living.

Source: CINAHL

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Available in fulltext from Stroke at the ULHT Library and Knowledge Services’ eJournal collection
114. Contracture preventive positioning of the hemiplegic arm in subacute stroke patients: A pilot randomized controlled trial

Author(s) de Jong L.D., Nieuwboer A., Aufdemkampe G.

Citation: Clinical Rehabilitation, August 2006, vol./is. 20/8(656-667), 0269-2155 (August 2006)

Publication Date: August 2006

Abstract: Objective: To investigate the effectiveness of a contracture preventive positioning procedure for the hemiplegic arm in subacute stroke patients in addition to conventional physio- and occupational therapy. Design: A single-blind pilot randomized controlled trial. Setting: Inpatient neurological units from three rehabilitation centres in the Netherlands. Subjects: Nineteen subacute stroke patients (minus two drop-outs) with a severe motor deficit of the arm. Interventions: All subjects underwent conventional rehabilitation care. Nine subjects additionally received a positioning procedure for two 30-min sessions a day, five days a week, for five weeks. Main measures: Passive range of motion of five arm movements using a hydrogoniometer and resistance to passive movement at the elbow using the Ashworth Scale. Secondary outcome measures were pain at the end range of passive motions, the arm section of the Fugl-Meyer Assessment and Barthel Index scores for ADL-independence. Outcome measures were taken after five weeks and additional measurements after 10 weeks by two assessors blinded to group allocation. Results: Comparison of the experimental (n = 9) with the control subjects (n = 8) after five weeks showed that additional positioning significantly slowed down development of shoulder abduction contracture (P = 0.042, -5.3 degrees versus -23 degrees). No other differences were found between the groups. Conclusions: Applying a contracture preventive positioning procedure for the hemiplegic arm slowed down the development of shoulder abduction contracture. Positioning did not show significant additional value on other outcome measures. Since the sample size was small, results of this study need future verification. 2006 SAGE Publications.

Source: EMBASE

Available in print at Lincoln County Hospital Professional Library

115. The effectiveness of constraint-induced therapy as a stroke intervention: a meta-analysis.

Author(s) Bjorklund A, Fecht A

Citation: Occupational Therapy in Health Care, 01 June 2006, vol./is. 20/2(31-49), 07380577

Publication Date: 01 June 2006

Abstract: Stroke is one of the most disabling conditions affecting adults today. Much research has been performed on rehabilitation interventions targeting hemiparesis after stroke. Constraint-induced therapy is a treatment technique that focuses on restraining the unaffected upper extremity while forcing use of the affected extremity to promote purposeful movement. This study presents a meta-analysis of applicable current literature on this treatment approach. It is concluded that constraint-induced therapy may be an effective treatment option for hemiparesis experienced after stroke.

Source: CINAHL

116. Stroke rehabilitation in Europe: what do physiotherapists and occupational therapists actually do?.


Citation: Stroke, June 2006, vol./is. 37/6(1483-9), 0039-2499;1524-4628 (2006 Jun)

Publication Date: June 2006
Abstract: BACKGROUND AND PURPOSE: Physiotherapy (PT) and occupational therapy (OT) are key components of stroke rehabilitation. Little is known about their content. This study aimed to define and compare the content of PT and OT for stroke patients between 4 European rehabilitation centers.METHODS: In each center, 15 individual PT and 15 OT sessions of patients fitting predetermined criteria were videotaped. The content was recorded using a list comprising 12 therapeutic categories. A generalized estimating equation model was fitted to the relative frequency of each category resulting in odds ratios.RESULTS: Comparison of PT and OT between centers revealed significant differences for only 2 of the 12 categories: ambulatory exercises and selective movements. Comparison of the 2 therapeutic disciplines on the pooled data of the 4 centers revealed that ambulatory exercises, transfers, exercises, and balance in standing and lying occurred significantly more often in PT sessions. Activities of daily living, domestic activities, leisure activities, and sensory, perceptual training, and cognition occurred significantly more often in OT sessions.CONCLUSIONS: This study revealed that the content of each therapeutic discipline was consistent between the 4 centers. PT and OT proved to be distinct professions with clear demarcation of roles.

Source: Medline
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Available in fulltext from Stroke at Highwire Press
Available in fulltext from Stroke at the ULHT Library and Knowledge Services’ eJournal collection

117. Transfer of training effects in stroke patients with apraxia: An exploratory study
Author(s) Geusgens C., Van Heugten C., Donkervoort M., Van Den Ende E., Jolles J., Van Den Heuvel W.
Citation: Neuropsychological Rehabilitation, April 2006, vol./is. 16/2(213-229), 0960-2011;1464-0694 (April 2006)
Publication Date: April 2006
Abstract: The goal of the present study was to examine the transfer of the effects of cognitive strategy training for stroke patients with apraxia from trained to non-trained tasks. In strategy training, the occurrence of transfer is expected as the training programme is aimed, not at relearning specific tasks, but at teaching patients new ways to handle the problems resulting from the impairment. Exploratory analyses were conducted on data previously collected in a randomised controlled trial on the efficacy of the strategy training. A total of 113 left hemisphere stroke patients were randomly assigned to a strategy training group and a group receiving occupational therapy as usual. Assessment of apraxia, motor functioning and activities of daily living (ADL) took place at baseline, after an eight-week treatment period, and five months after baseline. The primary outcome measure consisted of standardised ADL observations of trained and non-trained tasks. The analyses showed that in both treatment groups, the scores on the ADL observations for non-trained tasks improved significantly after eight weeks of training as compared with the baseline score. Change scores of non-trained activities were larger in the strategy training group as compared with the usual treatment group. By using previously collected data we are able to illustrate the potential transfer of treatment effects in a large sample of stroke patients. We found indications for the occurrence of transfer, although the study was not originally designed for the purpose of evaluating transfer. Therefore these results are worth exploring more profoundly. We will further investigate our preliminary conclusions in a new prospective study which is specifically designed to examine the transfer of training effects. 2006 Psychology Press Ltd.
Source: EMBASE

118. Constraint-induced movement therapy in patients with stroke: a pilot study on effects of small group training and of extended mitt use.
Author(s) Brogårdh C, Sjölund BH
Citation: Clinical Rehabilitation, 01 March 2006, vol./is. 20/3(218-227), 02692155
Abstract: OBJECTIVE: (1) To evaluate constraint-induced movement therapy for chronic stroke patients modified into group practice to limit the demand on therapist resources. (2) To explore whether extended mitt use alone may enhance outcome. DESIGN: A combined case-control and randomized controlled study with pre- and post-treatment measures by blinded observers. SETTING: A university hospital rehabilitation department. PARTICIPANTS: Sixteen stroke patients (nine men and seven women; mean age 56.7 years; on average 28.9 months post stroke, five of whom were 6-19 months post stroke) with moderate motor impairments in the contralateral upper limb. INTERVENTION: Constraint-induced therapy (mitt on the less affected hand 90% of waking hours for 12 days) with 2-3 patients per therapist and 6 h of group training per day. After the training period, the patients were randomized either to using the mitt at home every other day for two-week periods for another three months (in total 21 days) or to no further treatment. OUTCOME MEASURES: Modified Motor Assessment Scale, Sollerman Hand Function Test, Two-Point Discrimination test and Motor Activity Log. RESULTS: The mean motor performance improved significantly after two weeks of constraint-induced group therapy on Motor Assessment Scale (1.44 (95% confidence interval (95% CI) 0.59-2.28) points; P = 0.003) and on Sollerman Hand Function Test (3.81 (95% CI 0.26-7.36) points; P = 0.037) but showed no sensory change in the Two-Point Discrimination Test (P = 0.283). The median difference in self-reported motor ability (Motor Activity Log) also improved (P < 0.001). However, no additional effect was seen from wearing a mitt for another three months. CONCLUSION: Constraint-induced group therapy, allowing several patients per therapist, seems to be a feasible alternative to improve upper limb motor function. The restraint alone, extended in time, did not enhance the treatment effect.

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119. Continuous passive motion improves shoulder joint integrity following stroke.

Author(s) Lynch D, Ferraro M, Krol J, Trudell CM, Christos P, Volpe BT

Citation: Clinical Rehabilitation, September 2005, vol./is. 19/6(594-9), 0269-2155;0269-2155 (2005 Sep)

Publication Date: September 2005

Abstract: OBJECTIVE: In a pilot study of patients with a first stroke and hemiparesis, we sought to determine whether treatment of the upper limb with continuous passive motion (CPM) that was device delivered would alter impairment, disability or the associated adverse symptoms of shoulder joint instability, pain and tone. DESIGN: Patients were randomly assigned to receive daily CPM treatments or participate in self-range of motion groups under the supervision of an occupational therapist. All patients received standard daily poststroke therapy for 3.5 h per day. A blinded evaluator at admission and discharge assessed patients using standardized scales of impairment, disability and adverse symptoms. SETTING: Specialized stroke unit of an acute rehabilitation hospital. SUBJECTS: Two hundred and eighty consecutive patients were screened and 35 of these with a first unilateral stroke, 13 +/- 6 days following the acute event, provided informed consent and were randomly assigned to CPM treatment or supervised group self-range exercise. MAIN MEASURES: Thirty-two completed the study and were evaluated using standardized measures for motor impairment (Fugl-Meyer, Motor Status Scale and Medical Research Council Motor Power), adverse symptoms (gleno-humeral stability, pain and tone), and disability (Functional Independence Measure). RESULTS: CPM-treated patients demonstrated positive trends towards improved shoulder joint stability (p = 0.06, confidence interval -0.03, 2.3) when compared with patients performing therapist-supervised self-range of motion. There were no significant differences in motor impairment, disability, pain or tone. CONCLUSIONS: Device-delivered continuous passive range of motion may offer an enhanced benefit for some adverse symptom reduction in the hemiplegic arm after stroke over traditional self-range of motion exercise.

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120. Effectiveness of unilateral and symmetrical bilateral task training for arm during the subacute phase after stroke: A randomized controlled trial

Author(s): Desrosiers J., Bourbonnais D., Corriveau H., Gosselin S., Bravo G.

Citation: Clinical Rehabilitation, September 2005, vol./is. 19/6(581-593), 0269-2155 (September 2005)

Publication Date: September 2005

Abstract: Objective: To evaluate the effect of an arm training programme combining repetition of unilateral and symmetrical bilateral tasks for people in the subacute phase after stroke. Design: Randomized controlled trial. Setting: Inpatient functional rehabilitation unit. Subjects: Forty-one people who had had a stroke, in the subacute phase, receiving conventional arm occupational and physical therapy, were randomized to an experimental group (n = 20) and a control group (n = 21). Interventions: In addition to the usual arm therapy in the rehabilitation unit, the experimental group received an arm therapy programme (15-20 45-min sessions) based on repetition of unilateral and symmetrical bilateral tasks. The control group received additional usual arm therapy of a similar duration and frequency to the experimental treatment. Main measures: The effect of the programme was judged on the basis of: (1) arm impairments (motor function, grip strength, gross and fine manual dexterity and motor co-ordination), (2) arm disabilities in tasks related to daily activities, and (3) functional independence in activities of daily living (ADL) and instrumental ADL (IADL). Results: Although both experimental and control groups of participants improved similarly during the study period, the statistical analyses did not show any difference between the groups at the end of the treatment for the different dependent variables evaluated: (1) arm impairments: p = 0.43-0.79; (2) arm disabilities: p = 0.16-0.90; and (3) functional independence: p = 0.63 and 0.90. Conclusions: An arm training programme based on repetition of unilateral and symmetrical bilateral practice did not reduce impairment and disabilities nor improve functional outcomes in the subacute phase after stroke more than the usual therapy. 2005 Edward Arnold (Publishers) Ltd.

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121. Effects of the continuous and normative rehabilitation therapy on quality of life and activities of daily living in old patients with stroke: Stratified randomized controlled trial

Author(s): Li C., Ni C.-M., Han R., Li J.-B., Meng Z.-X.

Citation: Chinese Journal of Clinical Rehabilitation, July 2005, vol./is. 9/25(1-3), 1671-5926 (07 Jul 2005)

Publication Date: July 2005

Abstract: Aim: To study the effects of early continuous normative comprehensive rehabilitation treatment on functional change and quality of life in old patients with stroke. Methods: Totally 54 old patients with stroke aged more than 60 consecutively admitted in the Department of Neurology of Anhui Medical University between November 27th, 2001 and September 30th, 2004 were chosen and randomly divided into two groups according to the delamination of cerebral infarction and cerebral hemorrhage: rehabilitation group and controlled group with 27 in each group. Patients in control group were treated with routine treatment in department of neurology. Patients in rehabilitation group on this basis were given continuous normative rehabilitation treatment from acute period (within 21 days after getting ill, 48 hours with stable state of an illness) to 6 months after getting ill, and conducted in the ward of department of neurology and the ward of department of rehabilitation and community or family, respectively, the content including cinesiateics, occupational therapy and verbal psychotherapy etc. All the patients at the moment of entering the bundle and the 6th month were assessed respectively with the clinical nerve function limitation score (CNS) (0-45 points, mild deflection with 0-15 points, and severe defection with 31-45 points). Activities of daily living ability was evaluated with Modified Barthel Index (MBI) (total 10 terms, full mark with 100 points, and less than 60 points for unable to self-care). Comprehensive function was evaluated by Functional Comprehensive
Assessment (FCA) (18 terms, 1-6 points in each term, 6 points for complete independence, 1 point for complete dependence or could not carry out the test, total score with 108 points). The quality of life was evaluated by WHOQOL-BREF questionnaire of Chinese version. Results: According to the intention-to-treat analysis, 54 patients were all involved in the result analysis. 1 The score of Functional Comprehensive Assessment: There were no differences between rehabilitation group and control group pre-treatment (43.93+/−14.67, 52.41+/−18.92, P>0.05). It was significantly higher in rehabilitation group than control group after 6 months (94.93+/−10.95, 84.41+/−18.81, t=2.51, P < 0.05). 2 The score of WHOQOL-BREF questionnaire of Chinese version: There were no differences between rehabilitation group and control group pre-treatment (58.07+/−12.20, 59.30+/−12.70, P>0.05). It was significantly higher in rehabilitation group than control group after 6 months (79.89+/−9.37, 70.63+/−10.39, t=3.44, P < 0.05). 3 The score of Modified Barthel Index: There were no differences between rehabilitation group and control group pre-treatment (18.59+/−11.96, 25.74+/−14.32, P > 0.05). It was significantly lower in rehabilitation group than control group after 6 months (10.63+/−6.63, 14.70+/−6.54, t=2.05, P < 0.05). 5 There were no mal-occurrence and sub-response. Conclusion: The continuous and normative treatment of general rehabilitation modality in department of neurology, department of rehabilitation, community and family is safety and operative for old patients with stroke, may improve the daily living ability and quality of life in patients.

Source: EMBASE

122. Evidence of the efficacy of occupational therapy in different conditions: an overview of systematic reviews.

Author(s) Steultjens EMJ, Dekker J, Bouter LM, Leemrijse CJ, van den Ende CH

Citation: Clinical Rehabilitation, 01 May 2005, vol./is. 19/3(247-254), 02692155

Publication Date: 01 May 2005

Abstract: OBJECTIVE: To summarize the research evidence available from systematic reviews of the efficacy of occupational therapy (OT) for practitioners, researchers, purchasing organizations and policy-makers. DATA SOURCE: The search for systematic reviews was conducted in PubMed and the Cochrane Library (October 2004). METHODS: The reviews included were those that utilized a systematic search for evidence with regard to OT for specific patient groups. Data were summarized for patient group, interventions, outcome domains, type of study designs included, method of data synthesis and conclusions. RESULTS: Fourteen systematic reviews were included. Three reviews related to rheumatoid arthritis, four reviewed stroke and four focused on elderly people. Reviews of Parkinson's disease, multiple sclerosis, Huntington's disease, cerebral palsy and mental illnesses were also identified. The reviews of rheumatoid arthritis, stroke and elderly people showed evidence of the efficacy of OT in increasing functional abilities. Positive results were presented for quality of life and social participation in elderly people and stroke respectively. The efficacy of OT in all other patient groups is unknown due to insufficient evidence. CONCLUSION: This summary shows that elderly people and people with stroke or rheumatoid arthritis can expect to benefit from comprehensive OT. Evidence of the efficacy of specific interventions is sparse and should be addressed in future research. The evidence that does exist should be incorporated into OT practice.

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123. A study to assess the effect of nursing interventions at the weekend for people with stroke.

Author(s) Davidson I, Hillier VF, Waters K, Walton T, Booth J

Citation: Clinical Rehabilitation, 01 March 2005, vol./is. 19/2(126-137), 02692155

Publication Date: 01 March 2005
Abstract: OBJECTIVE: To examine whether additional therapy provided by nurses at the weekend improved the physical outcome for people with stroke on a stroke rehabilitation unit. DESIGN: A single blind randomized controlled trial. SETTING: A 16-bed stroke rehabilitation unit in the north of England. SUBJECTS: Forty-one people with stroke were randomized by means of minimization to intervention and control groups. INTERVENTIONS: The intervention group received additional exercise at the weekend provided by the nursing staff and the control group received their usual care. Both groups received usual care during weekdays. MAIN OUTCOME MEASURES: The Motor Assessment Scale (MAS), the Barthel Index (BI) and length of stay in hospital. RESULTS: No significant differences were found between the groups in terms of MAS and BI at discharge but there was a borderline significant difference between the groups on unconditional testing in terms of length of stay in hospital and on the stroke unit (p = 0.05 and p = 0.07 respectively). However, these findings were in favour of the control group. On conditional testing (adjusting for BI on admission and age) these differences disappeared (p = 0.14 and p = 0.15) for length of stay in hospital and on the stroke unit respectively. CONCLUSIONS: The present study indicates that an increase in one-to-one input by nurses for people with stroke did not lead to a measurable difference in outcome in this small study.

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124. A randomized controlled trial of early supported discharge and continued rehabilitation at home after stroke: five-year follow-up of patient outcome.

Author(s) Thorsén A, Widén Holmqvist L, de Pedro-Cuesta J, von Koch L
Citation: Stroke (00392499), 01 February 2005, vol./is. 36/2(297-302), 00392499
Publication Date: 01 February 2005
Abstract: BACKGROUND AND PURPOSE: The optimal organization of rehabilitation services after discharge from a stroke unit has not been determined. This study sought to evaluate the effect of early supported discharge and continued rehabilitation at home (ESD), in terms of patient outcome 5 years after stroke and changes in selected data over time. METHODS: Eighty-three patients from Southwest Stockholm, mildly or moderately impaired 5 to 7 days after acute stroke, were enrolled in a randomized controlled trial. The core components of the ESD service were initial treatment in a stroke unit and the involvement of an outreach team to deliver and coordinate home-based rehabilitation in partnership with the patient. At the 5-year follow-up, measures used to assess patient outcome included survival, motor capacity, dysphasia, activities of daily living (ADL), social activities, subjective dysfunction, and self-reported falls. RESULTS: Fifty-four patients (30 in the intervention group and 24 in the control group) were evaluated 5 years after stroke, at which time a significantly larger proportion of patients in the intervention group were independent in extended ADL and active in household activities. CONCLUSIONS: This ESD service has a beneficial effect on extended ADL 5 years after stroke for mildly to moderately impaired patients.

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