

# Physiotherapy Current Awareness Bulletin

July 2018

A number of other bulletins are also available – please contact the Academy Library for further details

**This bulletin uses content created and shared with permission by the Healthcare Library Salisbury NHS Foundation Trust**

If you would like to receive these bulletins on a regular basis please contact the library.

For any references where there is a link to the full text please use your

**NHS Athens username & password to access**

If you would like any of the full references from those that do not have links we will source them for you.

Contact us: **Academy Library 824897/98**

Email: [ruh-tr.library@nhs.net](mailto:ruh-tr.library@nhs.net)

**Title: A systematic review and meta-analysis of the safety, feasibility and effect of exercise in women with stage II+ breast cancer.**

**Citation:** Archives of physical medicine and rehabilitation; May 2018

**Author(s):** Singh, Ben; Spence, Rosalind R; Steele, Megan L; Sandler, Carolina X; Peake, Jonathan M; Hayes, Sandra C

**Objective:** To systematically evaluate the safety, feasibility and effect of exercise among women with stage II+ breast cancer.

**Data Sources:** CINAHL, Cochrane, Ebscohost, MEDLINE, Pubmed, ProQuest Health and Medical Complete, ProQuest Nursing and Allied Health Source, Science Direct and SPORTDiscus were searched for articles published prior to March 1, 2017.

**Study Selection:** Randomised, controlled, exercise trials involving at least 50% of women diagnosed with stage II+ breast cancer were included.

**Data Extraction:** Risk of bias was assessed and adverse event severity was classified using the Common Terminology Criteria. Feasibility was evaluated by computing median (range) recruitment, withdrawal and adherence rates. Meta-analyses were performed to evaluate exercise safety and effects on health outcomes only. The influence of intervention characteristics (mode, supervision, duration and timing) on exercise outcomes were also explored.

**Data Synthesis:** There were no differences in adverse events between exercise and usual care (risk difference: <0.01 [95% CI: -0.01, 0.01]),  $p=0.38$ ). Median recruitment rate was 56% (1%-96%), withdrawal rate was 10% (0%-41%) and adherence rate was 82% (44%-99%). Safety and feasibility outcomes were similar, irrespective of exercise mode, supervision, duration, or timing. Effects of exercise for quality of life, fitness, fatigue, strength, anxiety, depression, body mass index and waist circumference compared with usual care were significant (standardised mean difference range: 0.17-0.77,  $p<0.05$ ).

**Conclusion:** The findings support the safety, feasibility and effects of exercise for those with stage II+ breast cancer, suggesting that national and international exercise guidelines appear generalizable to women with local, regional and distant breast cancer.

---

**Title: A systematic review of evidence for older adults' sedentary behavior and physical activity after hip fracture. Author(s):** Zusman, Enav Z; Dawes, Martin G; Edwards, Nicola; Ashe, Maureen C

**Citation:** Clinical rehabilitation; May 2018; vol. 32 (no. 5); p. 679-691

**Objective:** To synthesize evidence on older adults' sedentary behavior and physical activity during rehabilitation and recovery for hip fracture (1) across the care continuum and (2) from clinical interventions.

**Design:** We conducted a systematic review of peer-reviewed publications using CINAHL, Embase, Ovid MEDLINE, PsycINFO, and SportDiscus (last search: 17 October 2017).

**Study Selection:** We included studies that measured sedentary behavior and physical activity of older adults with hip fracture using activity monitors (e.g. accelerometers). We identified literature at Level 1 (title and abstract) and Level 2 (full text), and conducted forward and backward searches. We assessed observational studies' adherence to reporting guidelines and intervention studies' risk of bias.

**Results:** We included 14 studies (882 participants). Four studies reported sedentary behavior data, while all studies reported information on physical activity. Settings included hospital, rehabilitation centers, and the community. Nine studies were observational; five were experimental design. Older adults had excessive sedentary time (>10 hours/day) and low physical activity. Participants' average upright time differed across settings. During hospital stay, it ranged 16-52 minutes/day, while in the community, it ranged 51-261 minutes/day. Data from five interventions reported on physical activity change: two studies increased between 14 and 27 minutes/day. Another study reported participants accumulated 6994 steps/day at the end of the intervention, but for two other interventions, activity was below 5000 steps/day.

**Conclusion:** Based on available evidence, older adults with hip fracture engage in prolonged sedentary behavior and have low levels of physical activity during rehabilitation and recovery.

---

**Title: A systematic review of grounded theory studies in physiotherapy.**

**Citation:** Physiotherapy theory and practice; May 2018 ; p. 1-31

**Author(s):** Ali, Nancy; May, Stephen; Grafton, Kate

**Aim:** This systematic review aimed at appraising the methodological rigor of grounded theory research published in the field of physiotherapy to assess how the methodology is understood and applied. A secondary aim was to provide research implications drawn from the findings to guide future grounded theory methodology (GTM) research.

**Methods:** A systematic search was conducted in MEDLINE, CINHALL, SPORT Discus, Science Direct, PubMed, Scopus, and Web of Science to identify studies in the field of physiotherapy that reported using GTM and/or methods in the study title and/or abstract. The descriptive characteristics and methodological quality of eligible studies were examined using grounded theory methodology assessment guidelines.

**Findings:** The review included 68 studies conducted between 1998 and 2017. The findings showed that GTM is becoming increasingly used by physiotherapy researchers. Thirty-six studies (53%) demonstrated a good understanding and appropriate application of GTM. Thirty-two studies (47%) presented descriptive findings and were considered to be of poor methodological quality.

**Conclusions:** There are several key tenets of GTM that are integral to the iterative process of qualitative theorizing and need to be applied throughout all research practices including sampling, data collection, and analysis.

---

**Title: Are unstable support surfaces superior to stable support surfaces during trunk rehabilitation after stroke? A systematic review.**

**Citation:** Disability and rehabilitation; Aug 2018; vol. 40 (no. 17); p. 1981-1988

**Author(s):** Van Criekinge, Tamaya; Saeys, Wim; Vereeck, Luc; De Hertogh, Willem; Truijen, Steven

**Objective:** To investigate the effect of trunk rehabilitation using unstable support surfaces compared to stable support surfaces, on static and dynamic balance after stroke.

**Materials and Methods:** A systematic review was conducted to identify relevant articles from the following databases: Medline (PubMed), Web of Science, PEDro, REHAB+, Rehabdata, Science Direct, CIRRIE, and Cochrane library. Studies were included when they involved adult stroke patients; were controlled clinical trials; assessed static and dynamic balance; and incorporated trunk exercises on stable or unstable support surfaces. Databases were systematically screened until April 2017. Risk of bias assessment was performed by means of the PEDro scale.

**Results:** Seven studies met the inclusion criteria, of which one had a low risk of bias and six a high risk. In total, 184 stroke patients were evaluated. Unstable support surfaces used during therapy were physio balls, balance pads, air cushions, tilting boards, and slings. Trunk training was provided either as additional therapy or without conventional therapy. All modalities, except for the sling, showed larger improvements compared to stable support surfaces on balance performance.

**Conclusions:** Trunk training on unstable support surfaces seemed to be superior to stable support surfaces in improving static and dynamic balance. However, more research is necessary, since the risk of bias of the included studies was high. Implications for Rehabilitation Trunk training on unstable surfaces seems to be superior to stable surfaces in improving static and dynamic balance. Physio balls, air cushions, balance pads, and unstable boards are appropriate supports to enhance balance during stroke rehabilitation. Implementing unstable supports early in rehabilitation might be more beneficial.

---

**Title: Biofeedback interventions for individuals with cerebral palsy: a systematic review.**

**Citation:** Disability and rehabilitation; May 2018 ; p. 1-23

**Author(s):** MacIntosh, Alexander; Lam, Emily; Vigneron, Vincent; Vignais, Nicolas; Biddiss, Elaine

**Purpose:** The purpose of this study is to evaluate the quality of evidence of biofeedback interventions aimed at improving motor activities in people with Cerebral Palsy (CP). Second, to describe the relationship between intervention outcomes and biofeedback characteristics.

**Methods:** Eight databases were searched for rehabilitation interventions that provided external feedback and addressed motor activities. Two reviewers independently assessed and extracted data. The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) framework was used to evaluate quality of evidence for outcome measures related to two International Classification of Functioning, Disability and Health (ICF) chapters.

**Results:** Fifty-seven studies were included. There were 53 measures related Activities and Participation and 39 measures related to Body Functions. Strength of evidence was "Positive, Very-Low" due to the high proportion of non-controlled studies and heterogeneity of measures. Overall, 79% of studies and 63% of measures showed improvement post-intervention. Counter to motor learning theory recommendations, most studies provided feedback consistently and concurrently throughout the intervention regardless of the individual's desire or progress.

**Conclusion:** Heterogeneous interventions and poor study design limit the strength of biofeedback evidence. A thoughtful biofeedback paradigm and standardized outcome toolbox can strengthen the confidence in the effect of biofeedback interventions for improving motor rehabilitation for people with CP. Implications for Rehabilitation Biofeedback can improve motor outcomes for people with Cerebral Palsy. If given too frequently, biofeedback may prevent the client from learning autonomously. Use consistent and concurrent feedback to improve simple/specific motor activities. Use terminal feedback and client-directed feedback to improve more complex/general motor activities.

---

**Title: Clinical Benefits of Joint Mobilization on Ankle Sprains: A Systematic Review and Meta-Analysis.**

**Citation:** Archives of physical medicine and rehabilitation; Jul 2018; vol. 99 (no. 7); p. 1395

**Author(s):** Weerasekara, Ishanka; Osmotherly, Peter; Snodgrass, Suzanne; Marquez, Jodie; de Zoete, Rutger; Rivett, Darren A

**Objective:** To assess the clinical benefits of joint mobilization for ankle sprains. DATA

SOURCES MEDLINE, MEDLINE In-Process, Embase, AMED, PsycINFO, CINAHL, Cochrane Library, PEDro, Scopus, SPORTDiscus, and Dissertations and Theses were searched from inception to June 2017.

**Study Selection:** Studies investigating humans with grade I or II lateral or medial sprains of the ankle in any pathologic state from acute to chronic, who had been treated with joint mobilization were considered for inclusion. Any conservative intervention was considered as a comparator. Commonly reported clinical outcomes were considered such as ankle range of movement, pain, and function. After screening of 1530 abstracts, 56 studies were selected for full-text screening, and 23 were eligible for inclusion. Eleven studies on chronic sprains reported sufficient data for meta-analysis.

**Data Extraction:** Data were extracted using the participants, interventions, comparison, outcomes, and study design approach. Clinically relevant outcomes (dorsiflexion range, proprioception, balance, function, pain threshold, pain intensity) were assessed at immediate, short-term, and long-term follow-up points.

**Data Synthesis:** Methodological quality was assessed independently by 2 reviewers, and most studies were found to be of moderate quality, with no studies rated as poor. Meta-analysis revealed significant immediate benefits of joint mobilization compared with comparators on improving posteromedial dynamic balance ( $P=.0004$ ), but not for improving dorsiflexion range ( $P=.16$ ), static balance ( $P=.96$ ), or pain intensity ( $P=.45$ ). Joint mobilization was beneficial in the short-term for improving weight-bearing dorsiflexion range ( $P=.003$ ) compared with a control.

**Conclusions:** Joint mobilization appears to be beneficial for improving dynamic balance immediately after application, and dorsiflexion range in the short-term. Long-term benefits have not been adequately investigated.

---

**Title: Comparative Efficacy of Intra-Articular Steroid Injection and Distension in Patients With Frozen Shoulder: A Systematic Review and Network Meta-Analysis.**

**Citation:** Archives of physical medicine and rehabilitation; Jul 2018; vol. 99 (no. 7); p. 1383

**Author(s):** Lin, Meng-Ting; Hsiao, Ming-Yen; Tu, Yu-Kang; Wang, Tyng-Guey

**Objective:** To compare the efficacy of intra-articular (IA) steroid injection and distension in patients with frozen shoulder.

**Data Sources:** Databases, including MEDLINE (via PubMed), Embase, Scopus, and Cochrane Library, were searched for studies published up to November 2016.

**Study Selection:** We included all published randomized controlled trials (RCTs), quasi-experimental studies, and observational studies investigating the effectiveness of IA steroid injection, distension, and physiotherapy in patients with frozen shoulder. Sixteen RCTs and 1 observational study were enrolled in meta-analysis.

**Data Extraction:** Full texts were independently reviewed, and quality of RCTs was assessed with The Cochrane Collaboration's tool. The primary outcome was functional improvement; the secondary outcomes included pain reduction and external rotation (ER) improvement.

**Data Synthesis:** In pairwise meta-analysis, pooled standardized mean difference (SMD) of functional improvement and pain reduction revealed equal efficacy at 3 follow-up time points. With respect to ER improvement, distension has a superior effect compared with IA steroid injection in the short term [(2-4wk; SMD,  $-.36$ ; 95% confidence interval [CI],  $-.68$  to  $-.04$ ) and medium term (6-16wk; SMD,  $-0.80$ ; 95% CI,  $-1.32$  to  $-0.29$ ). The network meta-analysis indicated a better efficacy for distension than for IA steroid injection in ER improvement only in the medium term (6-16wk; SMD,  $-0.70$ ; 95% CI,  $-1.19$  to  $-0.21$ ).

**Conclusions:** IA steroid injection was as effective as distension in shoulder function improvement, pain reduction, and increasing ER of the shoulder. Distension yielded better ER improvement in the medium

term but to a minor extent in the long term. For patients with predominant ER limitation, early distension could be considered the primary choice of treatment.

---

**Title: Dual-task training effects on motor and cognitive functional abilities in individuals with stroke: a systematic review.**

**Citation:** Clinical rehabilitation; Jul 2018; vol. 32 (no. 7); p. 865-877

**Author(s):** He, Ying; Yang, Lei; Zhou, Jing; Yao, Liqing; Pang, Marco Yiu Chung

**Objective:** This systematic review aimed to examine the effects of dual-task balance and mobility training in people with stroke.

**Methods:** An extensive electronic databases literature search was conducted using MEDLINE, PubMed, EBSCO, The Cochrane Library, Web of Science, SCOPUS, and Wiley Online Library. Randomized controlled studies that assessed the effects of dual-task training in stroke patients were included for the review (last search in December 2017). The methodological quality was evaluated using the Cochrane Collaboration recommendation, and level of evidence was determined according to the criteria described by the Oxford Center for Evidence-Based Medicine.

**Results:** About 13 articles involving 457 participants were included in this systematic review. All had substantial risk of bias and thus provided level IIb evidence only. Dual-task mobility training was found to induce more improvement in single-task walking function (standardized effect size = 0.14-2.24), when compared with single-task mobility training. Its effect on dual-task walking function was not consistent. Cognitive-motor balance training was effective in improving single-task balance function (standardized effect size = 0.27-1.82), but its effect on dual-task balance ability was not studied. The beneficial effect of dual-task training on cognitive function was provided by one study only and thus inconclusive.

**Conclusion:** There is some evidence that dual-task training can improve single-task walking and balance function in individuals with stroke. However, any firm recommendation cannot be made due to the weak methodology of the studies reviewed.

---

**Title: Early Botulinum Toxin Injections in Infants With Musculoskeletal Disorders: A Systematic Review of Safety and Effectiveness.**

**Citation:** Archives of physical medicine and rehabilitation; Jun 2018; vol. 99 (no. 6); p. 1160

**Author(s):** Bourseul, Jean-Sébastien; Molina, Anais; Lintanf, Mael; Houx, Laetitia; Chaléat-Valayer, Emmanuelle; Pons, Christelle; Brochard, Sylvain

**Objective:** To report current evidence regarding the safety of intramuscular botulinum toxin injection (BTI) in children with orthopedic- and neurologic-related musculoskeletal disorders >2 years of age.

**Data Sources:** PubMed, Cochrane Library, and ScienceDirect, Google Scholar, and Web of Science.

**Study Selection:** Two reviewers independently selected studies based on predetermined inclusion criteria.

**Data Extraction:** Data relating to the aim were extracted. Methodologic quality was graded independently by 2 reviewers using the Physiotherapy Evidence Database scale for randomized controlled trials (RCTs) and the Downs and Black evaluation tool for non-RCTs. Level of evidence was determined using the modified Sackett scale.

**Data Synthesis:** Data of 473 infants were analyzed. Fifty-five infants had cerebral palsy, 112 had obstetric brachial plexus palsy, 257 had clubfoot, and 44 had congenital torticollis. No studies reported any severe adverse event that could be attributed to the BTI. The rate of mild to moderate adverse events reported varied from 5% to 25%. Results regarding efficacy were preliminary, dependent on the pathology, and limited by the small number of studies and their low levels of evidence.

**Conclusions:** BTI is already widely used as an early treatment for this age group. The safety profile of BTI in infants appears similar to that of older children and risks appear more related to the severity of the pathology and the location of the injections than to the toxin itself. Regarding effectiveness, other studies with higher levels of evidence should be carried out for each specific pathology.

---

**Title: Effect of diverse physical rehabilitative interventions on static postural control in diabetic peripheral neuropathy: a systematic review.**

**Citation:** Physiotherapy theory and practice; Jul 2018 ; p. 1-12

**Author(s):** Dixit, Snehil; Gular, Kumar; Asiri, Faisal

**Background and Purpose:** There are diverse forms of rehabilitative techniques available to improve postural control in diabetic peripheral neuropathy but little is known about the efficacy of these techniques.

The primary focus of this review is to find out the effectiveness of diverse rehabilitative interventions in improving postural control in type 2 induced diabetic peripheral neuropathy.

**Methods:** Two reviewers independently scrutinized the included studies. The selected studies underwent quality assessment by PEDro scale. Randomized Controlled Trial (RCT) having a score of 4 or more were included in the review. A search was conducted in PUBMED, MEDLINE, CINAHL, EMBASE, PROQUEST, Science Direct, Cochrane Library, Physiotherapy Evidence Database (PEDro) and Google Scholar. The Medical Subject Headings (MeSH) related to the interventions were also taken into account. RESULTS A total of 563 studies were identified and finally 8 studies were included in the review process. The included studies were 3 in task-specific balance training, 1 in treadmill, 1 in strengthening, 2 in whole body vibration, and 1 study in pilates analyzing posture using static posturography. No RCTs were reportedly found under tai chi and yoga.

**Conclusions:** Interventions related to task-specific approach in balance training, treadmill, strengthening, WBV showed improvement in static postural control. Intervention with pilates did not show any beneficial effects. However, there still remains a need for quality trials as the results of these studies were ambivalent in interpretation and quality of the studies were limited by small sample size and higher attrition rates.

---

**Title: Effectiveness of and User Experience With Web-Based Interventions in Increasing Physical Activity Levels in People With Multiple Sclerosis: A Systematic Review.**

**Citation:** Physical therapy; May 2018

**Author(s):** Dennett, Rachel; Gunn, Hilary; Freeman, Jennifer A

**Background:** Supporting people with multiple sclerosis (MS) to achieve and maintain recommended levels of physical activity is important but challenging. Web-based interventions are increasingly being used to deliver targeted exercise programs and promote physical activity.

**Purpose:** The purpose of this study was to systematically review current evidence regarding the effectiveness and user experience of web-based interventions in increasing physical activity in people with MS.

**Data Sources:** MEDLINE, EMBASE, CINAHL, AMED, PEDro, PsychInfo, Web of Sciences, The Cochrane Library, and gray literature were searched from 1990 to September 2016. Study Selection English language articles reporting the use of web-based interventions to increase physical activity in adults with MS were included. Eligible quantitative studies were of any design and reported a measure of physical activity. Qualitative studies exploring users' experiences in any context were included. Of the 881 articles identified, 9 met the inclusion criteria.

**Data Extraction:** Two reviewers independently assessed methodological quality and extracted data using standardized critical appraisal and data extraction tools from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MASARI).

**Data Synthesis:** Meta-analysis of self-reported physical activity questionnaire data from 4 studies demonstrated a standardized mean difference of 0.67 (95% CI = 0.43-0.92), indicating a positive effect in favor of the web-based interventions. Narrative review of accelerometry data from 3 studies indicated increases in objectively measured physical activity. No qualitative studies met the inclusion criteria.

**Limitations:** In the 9 included articles, only 2 different interventions (used with people who were ambulant) were reported

**Conclusions:** Web-based interventions had a short-term positive effect on self-reported physical activity in people who had MS and were ambulant. Evidence is not currently available to support or refute their use in the long-term or with people who are not ambulant.

---

**Title: Effectiveness of mobilization with movement (Mulligan concept techniques) on low back pain: a systematic review.**

**Citation:** Clinical rehabilitation; May 2018 ; p. 269215518778321

**Author(s):** Pourahmadi, Mohammad Reza; Mohsenifar, Holakoo; Dariush, Mozhdeh; Aftabi, Amirreza; Amiri, Ali

**Objective:** To evaluate evidence on the effectiveness of Mulligan techniques on low back pain.

**Data Sources:** PubMed/Medline, Scopus, Ovid, CINAHL, Embase, PEDro, Google Scholar, and Cochrane Library were

searched from inception to 31 March 2018 for randomized clinical trials reporting outcomes of pain or disability in adult patients ( $\geq 18$  years) with low back pain.

**Review Methods:** Two authors screened the results and extracted data for use in this review. The risk of bias was evaluated using the Cochrane criteria. Basic information and treatment protocols were also

extracted. In addition, the level of evidence of each study and strength of conclusion for pain and disability were determined.

**Results:** A total of 20 studies with 693 patients were included. Nine trials focused on sustained natural apophyseal glide, three on spinal mobilization with limb movement and seven on bent leg raise. The results showed that Mulligan techniques can decrease pain and disability and increase range of motion in patients with low back pain; however, the strength of conclusion for pain and disability was moderate. Furthermore, inconclusive results were observed for the effectiveness of Mulligan techniques on movement speed. In this review, eight studies were categorized as low risk of bias, while 12 studies had high risk of bias. Level of evidence analysis revealed that 17 studies were classified as level of evidence B, while three studies were classified as level of evidence A2.

**Conclusion:** Current evidence is insufficient in supporting the benefits of Mulligan techniques on pain, disability, and range of motion in low back pain patients.

---

**Title: Effectiveness of supervised home-based exercise therapy compared to a control intervention on functions, activities and participation in older patients after hip fracture: a systematic review and meta-analysis.**

**Citation:** Archives of physical medicine and rehabilitation; Jun 2018

**Author(s):** Kuijlaars, Isolde A R; Sweerts, Lieke; Nijhuis-van der Sanden, Maria W G; van Balen, Romke; Staal, J Bart; van Meeteren, Nico L U; Hoogeboom, Thomas J

**Objective:** The aim of this review was to investigate whether supervised home-based exercise therapy after hospitalization is more effective on improving functions, activities and participation in older patients after hip fracture as compared with a control intervention (including usual care). Furthermore, we aimed to account the body of evidence for therapeutic validity.

**Data Sources:** Systematic searches of Medline, Embase and CINAHL databases up to 30 June 2016.

**Study Selection:** Randomized controlled trials studying supervised home-based exercise therapy after hospitalization in older patients ( $\geq 65$  years) after hip fracture.

**Data Extraction:** Two reviewers assessed methodological quality (PEDro) and therapeutic validity (CONTENT). Data were primary analysed using a best evidence synthesis on methodological quality and meta-analyses.

**Data Synthesis:** Nine articles were included (six trials; 602 patients). Methodological quality was high in 4/6 studies. One study had high therapeutic validity. We found limited evidence in favour of home-based exercise therapy for short- ( $\leq$ four months) and long-term ( $>$ four months) performance-based activities of daily living and effects at long-term for gait (fast) and endurance. Evidence of no effectiveness was found for short- and long-term effects on gait and self-reported (instrumental) activities of daily living and short-term effects on balance, endurance and mobility. Conflicting evidence was found for strength, long-term balance, short-term gait (comfortable), long-term self-reported activities of daily living and long-term mobility.

**Conclusions:** Research findings show no evidence in favour of home-based exercise therapy after hip fracture for most outcomes of functions, activities and participation. However, trials in this field have low therapeutic validity (absence of rationale for content and intensity and reporting of adherence) which results in interventions which do not fit patients limitations and goals.

---

**Title: Effects of elastic therapeutic taping on motor function in children with motor impairments: a systematic review.**

**Citation:** Disability and rehabilitation; Jul 2018; vol. 40 (no. 14); p. 1609-1617

**Author(s):** Cunha, Andréa Baraldi; Lima-Alvarez, Carolina Daniel de; Rocha, Ana Carolinne Portela; Tudella, Eloisa

**Background:** The elastic therapeutic taping has been considered a promising resource for disabled children.

**Objective:** To systematically review the evidence of the effects of elastic therapeutic taping on motor function in children with motor impairments.

**Method:** Three independent evaluators conducted searches in electronic databases (MEDLINE/PubMed, Scopus, LILACS, BIREME/BVS, Science Direct, SciELO, and PEDro). Clinical studies design, published until 2016, involving elastic therapeutic taping and children aged 0-12 years with motor impairments were included. The variables considered were the methodological aspects (study design, participants, outcome measurements, and experimental conditions); results presented in the studies, and also the methodological quality of studies.

**Results:** Final selection was composed by 12 manuscripts (five randomized controlled trials), published in the last 10 years. Among them, cerebral palsy (CP) was the most recurrent disorder (n = 7), followed by congenital muscular torticollis (n = 2) and brachial plexus palsy (n = 2). Positive results were associated with taping application: improvement in the upper limb function, gross motor skills, postural control, muscular balance, and performance in the dynamics functional and daily activities.

**Limitations:** Lower quality of the studies, clinical and population heterogeneity existed across studies.

**Conclusions:** The elastic therapeutic taping has been shown to be a promising adjunct resource to the conventional rehabilitation in children with motor impairments. However, high methodological studies about its efficacy in this population are already scarce. Implications for Rehabilitation Elastic therapeutic taping has been shown to be a promising adjunct resource to the conventional rehabilitation in disabled children. Clinical trials have indicated improvement in the postural control and functional activities with both, upper and lower limbs, and increase in the functional independency resulting from the taping use. Randomized control trials and well-established protocols are needed to increase the confidence in applying elastic therapeutic taping to specific clinical conditions.

**DATA EXTRACTION** Two independent authors performed data extraction and risk of bias analysis using the Cochrane Collaboration tool. Discrepancies between authors were resolved by consensus.

**DATA SYNTHESIS** Systematic review of a total of 6 randomized controlled trials, 1 quasi-randomized trial, and 4 controlled trials revealed consistent evidence for a beneficial effect of early onset neurorehabilitation in the trauma center and intensive neurorehabilitation in the rehabilitation facility on functional outcome compared with usual care. Meta-analytic quantification revealed a large-sized positive effect for early onset rehabilitation programs (d=1.02; P<.001; 95% confidence interval [CI], 0.56-1.47) and a medium-sized positive effect for intensive neurorehabilitation programs (d=.67; P<.001; 95% CI, .38-.97) compared with usual care. These effects were replicated based solely on studies with a low overall risk of bias.

**CONCLUSION** The available evidence indicates that early onset neurorehabilitation in the trauma center and more intensive neurorehabilitation in the rehabilitation facility promote functional recovery of patients with moderate to severe TBI compared with usual care. These findings support the integration of early onset and more intensive neurorehabilitation in the chain of care for patients with TBI.

---

**Title: Exertional Tolerance Assessments After Mild Traumatic Brain Injury: A Systematic Review.**

**Citation:** Archives of physical medicine and rehabilitation; May 2018; vol. 99 (no. 5); p. 994-1010

**Author(s):** Quatman-Yates, Catherine; Bailes, Anna; Constand, Sara; Sroka, Mary Claire; Nissen, Katharine; Kurowski, Brad; Hugentobler, Jason

**Objective:** To review the literature to identify and summarize strategies for evaluating responses to physical exertion after mild traumatic brain injury (mTBI) for clinical and research purposes.

**Data Sources:** PubMed and EBSCOhost through December 31, 2016.

**Study Selection:** Two independent reviewers selected studies based on the following criteria: (1) inclusion of participants with mTBI/concussion, (2) use of a measurement of physiological or psychosomatic response to exertion, (3) a repeatable description of the exertion protocol was provided, (4) a sample of at least 10 participants with a mean age between 8 and 65 years, and (5) the article was in English. The search process yielded 2685 articles, of which 14 studies met the eligibility requirements.

**Data Extraction:** A quality assessment using a checklist was conducted for each study by 2 independent study team members and verified by a third team member. Data were extracted by one team member and verified by a second team member.

**Data Synthesis:** A qualitative synthesis of the studies revealed that most protocols used a treadmill or cycle ergometer as the exercise modality. Protocol methods varied across studies including differences in initial intensity determination, progression parameters, and exertion duration. Common outcome measures were self-reported symptoms, heart rate, and blood pressure.

**CONCLUSION** The strongest evidence indicates that exertional assessments can provide important insight about mTBI recovery and should be administered using symptoms as a guide. Additional studies are needed to verify optimal modes and protocols for post-mTBI exertional assessments.

---

**Title: Getting a kinematic handle on reach-to-grasp: a meta-analysis.**

**Citation:** Physiotherapy; Jun 2018; vol. 104 (no. 2); p. 153-166

**Author(s):** Collins, Kathryn C; Kennedy, Niamh C; Clark, Allan; Pomeroy, Valerie M

**Background and Objectives:** Reach-to-grasp is an essential everyday activity that is often impaired after stroke. The objectives of this review are: (1) identify differences in the kinematic characteristics of reach-to-

grasp between individuals with and without stroke, and (2) determine the influence of object location on kinematics.

**Data Sources:** MEDLINE, AMED, and Embase databases.

**Eligibility Criteria:** Studies investigating individuals with stroke and neurologically intact control participants completing reach-to-grasp (paretic upper limb) of an object assessed via kinematic assessment (motion analysis).

**Review Methods:** Following Cochrane Collaboration guidelines a meta-analysis comparing kinematic characteristics of reach-to-grasp between individuals with and without stroke. Potential risk of bias was assessed using the Down's and Black Tool. Data were synthesised by calculating the standardised mean difference (SMD) in kinematic characteristics between adults with and without stroke.

**Results:** Twenty-nine studies met the review criteria, mainly of observational design; 460 individuals with stroke and 324 control participants. Kinematic differences in reach-to-grasp were identified in the central and ipsilateral workspace for example, individuals with stroke exhibited significantly lower peak velocity SMD -1.48 (95% CI -1.94, -1.02), and greater trunk displacement SMD 1.55 (95% CI 0.85, 2.25) than control participants. Included studies were assessed as demonstrating unclear or high potential risk-of-bias.

**Conclusions:** Differences in kinematic characteristics between individuals with and without stroke were identified which may be different reaching in the ipsilateral and central workspace. Suggesting, that object location may influence some kinematic characteristics and not others which may be pertinent when re-training reach-to-grasp. PROSPERO CRD42014009479.

---

**Title: How are balance and mobility problems after stroke treated in England? An observational study of the content, dose and context of physiotherapy.**

**Citation:** Clinical rehabilitation; May 2018 ; p. 269215518777789

**Author(s):** Tyson, Sarah F; Woodward-Nutt, Kate; Plant, Sarah

**Objective:** To describe the dose, intensity and context of physiotherapy for balance and mobility problems after stroke.

**Design:** Process mapping to describe the context and non-participant observation of therapy sessions to describe the dose and content of therapy.

**Setting:** Four inpatient stroke units in North-West England.

**Participants:** Therapy staff and previously mobile stroke survivors who were treating, or receiving treatment for balance and mobility problems in the participating units.

**Results:** Two units were stand-alone rehabilitation units; two offered a service at the weekends. One had no access to community-based rehabilitation. All had dedicated treatment facilities but often did not use them because of lack of space and difficulty transporting patients. Twenty-two patients participated and 100 treatment sessions were observed. Practising walking, sit-to-stand and transfers were the most frequent objectives and interventions usually with the therapist(s) physically facilitating the patient's movements. The dose of practise was low; mean repetitions of sit-to-stand per session was (SD 6.4); mean time spent upright per session was 11.24 (SD = 7) minutes, and mean number of steps per session was 202 (SD 118). The mean number of staff per patient was 2.1 (SD = 0.6, mode = 2), usually involving two qualified therapists. Falls prevention or management, wheelchair skills and bed mobility were not practised.

**Conclusion:** Stroke physiotherapy for balance and mobility problems features low-dose, low-intensity therapist-led practice, mainly of walking and sit-to-stand. Staff:patient ratios were high. Therapists need to organize treatment sessions to maximize the intensity of functional task practice.

---

**Title: How physiotherapists acquire management skills as they transition into a managerial role.**

**Author(s):** Dallimore, Rachel Kim; Fiddler, Helen

**Source:** British Journal of Healthcare Management; Jun 2018; vol. 24 (no. 6); p. 288-296

**Publication Date:** Jun 2018

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

**Abstract:** Concern has been evidenced in the literature that there is not enough preparation for the management aspect of healthcare workers' roles in the NHS. Therefore, improving leadership and management in the NHS has been recommended. This article explores how physiotherapists acquire management skills from which recommendations for improvement are made. Semi-structured interviews obtained qualitative data from eight, purposively sampled physiotherapists. A constructivist grounded theory approach involving the constant comparative method of analysis was used to develop a theory that attempts to explain how physiotherapists acquire management skills. Findings suggest that management skill acquisition is a dynamic, complex, and flexible learning process. Combinations of experiences in

tandem with facilitation from various support structures are used. Simultaneously, it is theorised that these are sorted and filtered via the practice of critical reflection. This seems to develop and refine the learning of management skills as physiotherapists transition from a clinical to managerial role. In addition, this may also assist physiotherapists to integrate their managerial role demands into their existing clinical workload. This may preserve professional identity, improve coping strategies, and enhance the ability to reflect towards active change and improvement during role transition.

---

**Is quality of life reduced in people with patellofemoral osteoarthritis and does it improve with treatment? A systematic review, meta-analysis and regression. Citation:** Disability and rehabilitation; Jul 2018 ; p. 1-15

**Author(s):** Hart, Harvi F; Filbay, Stephanie R; Coburn, Sally; Charlton, Jesse M; Sriharan, Prasanna; Crossley, Kay M

**Purpose:** To determine if quality of life is reduced in individuals with patellofemoral osteoarthritis, whether it can be improved with treatment, and potential factors associated with quality of life in individuals with patellofemoral osteoarthritis.

**Materials and Methods:** Published articles were identified by using electronic and manual searches. Studies reporting quality of life in individuals with patellofemoral osteoarthritis relative to a comparator group (e.g., no osteoarthritis) and intervention studies reporting quality of life in patellofemoral osteoarthritis following treatment relative to baseline/control group were included.

**Results:** Seventeen studies (seven cross-sectional, 10 intervention) were included in this systematic review. Relative to those without osteoarthritis, individuals with patellofemoral osteoarthritis had worse knee-related quality of life (five studies) and health-related quality of life (two studies). Non-surgical treatments appear to improve knee-related quality of life compared to pre-treatment (three studies) but not control (three studies). Surgical-treatments also improved knee-related quality of life compared to pre-treatment (five studies). Worse knee-related quality of life was associated with younger age, worse pain, symptoms, function in activities of daily living, and function in sport and recreation.

**Conclusions:** Individuals with patellofemoral osteoarthritis had worse knee-related and health-related quality of life compared to those without knee osteoarthritis. Non-surgical and surgical interventions may be effective in improving knee-related quality of life in individuals with patellofemoral osteoarthritis, but the intervention results are based on limited studies, and further research is needed to determine optimal strategies. Implications for rehabilitation Clinicians and researchers should consider knee-related and health-related quality of life when developing treatment strategies for patellofemoral osteoarthritis. Researchers investigating the effectiveness of a treatment should compare intervention to a control group. Addressing knee pain and functional limitations may aid in improving knee-related quality of life in individuals with patellofemoral osteoarthritis.

---

**Title: Patient reported experiences of using community rehabilitation and/or support services whilst living with a long-term neurological condition: a qualitative systematic review and meta-aggregation.**

**Citation:** Disability and rehabilitation; Jun 2018 ; p. 1-18

**Author(s):** Jackson, Katherine; Hamilton, Sharon; Jones, Susan; Barr, Steven

**Objectives:** The objective of this study is to identify patient reported experiences of using community rehabilitation and/or support services whilst living with a long-term neurological condition, and perceptions of their impact on quality of life.

**Methods:** Nine electronic databases were searched for peer-reviewed qualitative studies from 2005 to 2016, which met the inclusion criteria. Critical appraisal, data extraction, and quality assessment of 37 included papers were performed by three reviewers. One hundred and one findings were extracted. Meta-aggregation was used to synthesize findings.

**Findings:** Seven 'synthesized findings' [SF] were produced: Interactions with some professionals provide active participation, choice, confidence and autonomy [SF1]; Interactions with some professionals are disempowering and depersonalized [SF2]; Effective communication, specialist knowledge and an individualized approach to information provision is needed [SF3]; Indicators of success vary and may not be clear [SF4]; Informal support from family/friends is valued [SF5]; Opportunities for peer support/social interaction is valued [SF6]; Coordination required to ensure continuity during transition to community [SF7].

**Conclusion:** Patient reported experiences identified common factors associated with process quality (respect, choice, autonomy, information provision, communication) and activities of patient centered care (personalized care, shared decision-making, self-management support) despite heterogeneity of neurological conditions, service configurations, and geographical location. These factors impact quality of

life. Implications for Rehabilitation Patient reported experiences provide useful information about courtesy, respect, choice, autonomy, information provision, and communication. Outcomes of self-efficacy and self-management are important for people with stable and progressive long-term neurological conditions. Interactions with individual professionals influence engagement, self-efficacy, and self-management for people with long-term neurological conditions. Training for health and social care professionals should develop the advanced communication skills and behavior required to facilitate self-efficacy and self-management.

---

**Title: Physiotherapists' experiences of managing upper limb movement impairments due to breast cancer treatment.**

**Author(s):** Kenyon, Karen; Hebron, Clair; Vuoskoski, Pirjo; McCrum, Carol

**Source:** Physiotherapy theory and practice; Jun 2018 ; p. 1-14

**Background:** Physiotherapy is recommended for upper limb movement impairments (ULMI) following breast cancer treatment. There is limited research into the pathophysiology and management of ULMI. Care is provided in different health-care contexts by specialist and nonspecialist physiotherapists, with referrals set to increase. This study explores physiotherapists' experiences of managing ULMI.

**Design:** Qualitative study using a hermeneutic phenomenological approach.

**Method:** We interviewed six physiotherapists from various UK treatment settings. The data were analyzed using interpretative phenomenological analysis.

**Findings:** Four master themes were identified: (1) lack of confidence surrounds various aspects of practice, influenced by limited evidence to guide treatment of ULMI, fear of causing harm, and working in a less-established area of physiotherapy; (2) increasing confidence in practice develops with experience, reinforcing perceptions of the benefits of physiotherapy; (3) physiotherapy is understood to empower and enable patients to regain their sense of self and quality of life; and (4) provision of care is perceived to be subject to many barriers.

**Conclusion:** Physiotherapy for ULMI has professional challenges but is seen as beneficial, encompassing psychosocial and physical effects. Experiences in this area of practice suggest a need for increased professional support, further research to guide treatment, and better patient and health professional awareness of ULMI and the role of physiotherapy.

---

**Title: Physiotherapy for pelvic pain and female sexual dysfunction: an untapped resource.**

**Citation:** International urogynecology journal; May 2018; vol. 29 (no. 5); p. 631-638

**Author(s):** Berghmans, Bary

**Introduction and Hypothesis:** Chronic pelvic pain (CPP) in women is a complex syndrome. Pain sensation and intensity often do not correspond with the identified lesion location but are felt elsewhere, leading to musculoskeletal and myofascial disorders and sexual dysfunction (SD). Although physical aspects are prevalent, they are often underdiagnosed and undertreated due to lack of understanding regarding its origin and distribution. Frequently, patients experience pelvic pain as psychological distress resulting in physical complaints, leading clinicians to prescribe medication or surgical intervention to correct or alleviate these symptoms, often with insufficient results. Because pelvic floor muscle disorders contribute significantly to CPP and SD, there is rationale for physiotherapy. However, physiotherapy is a widely underused and untapped resource, which has its place in the multidisciplinary approach to these health problems.

**Methods:** Computer-aided and manual searches and methodological quality assessment were carried out for meta-analyses, systematic reviews, and randomized controlled trials (RCTs) published between 1990 and 2017 investigating classification, assessment, and (physiotherapeutic) treatment of pelvic pain and/or female SD defined by the keywords below. Expert opinions were sought via interviews. **RESULTS** Due to a lack of sufficient relevant medical information, referral data, and test results, focused physiotherapy is difficult to administer adequately. However, recent quality studies indicate significant clinical effects of physiotherapy for CPP and female SD, and experts advocate a multidisciplinary approach that includes physiotherapy.

**Conclusions:** Because of its holistic approach, physiotherapy can contribute significantly to the multidisciplinary assessment and treatment of CPP and female SD.

**Title: Physiotherapy practice in pulmonary hypertension: physiotherapist and patient perspectives.**

**Citation:** Pulmonary circulation; 2018; vol. 8 (no. 3); p. 2045894018783738

**Author(s):** Keen, Carol; Fowler-Davis, Sally; McLean, Sionnadh; Manson, Jane

**Abstract:** Pulmonary hypertension (PH) is a life-limiting disease affecting circulation to the lungs. The primary symptom of PH is breathlessness, yet research has shown that patients with PH can exercise safely and can benefit from exercise to improve exercise capacity and maintain quality of life. This study aimed to investigate the nature of physiotherapy delivered to patients with PH in the UK. This was a two-phase sequential, exploratory, mixed-methods study. Interviews were conducted with seven lead physiotherapists at specialist pulmonary hypertension centers and three patients. Survey data came from 63 physiotherapists caring for patients with PH in specialist and non-specialist settings. The findings from the two phases were triangulated and analyzed. Findings showed that physiotherapists and patients see the benefit and potential of physical activity for patients with PH to maintain functional wellbeing. However, current physiotherapy provision focuses on acute inpatient care and planning for discharge and is not therefore aligned with research evidence and clinical guidelines. In the absence of inpatient rehabilitation facilities, physiotherapists will occasionally access existing community services, e.g. pulmonary rehabilitation; however, specialist knowledge of this rare condition can be lacking in local services. There is aspiration among physiotherapists and patients for a new approach which supports patients from diagnosis with PH to end of life. This includes promoting and delivering rehabilitation and exercise interventions to achieve better health outcomes, in line with patient needs. Treatment would be commissioned and delivered within existing national health systems with physiotherapists developing strategies for health improvement.

---

**Title: Post-stroke self-management interventions: a systematic review of effectiveness and investigation of the inclusion of stroke survivors with aphasia.**

**Citation:** Disability and rehabilitation; Jun 2018; vol. 40 (no. 11); p. 1237-1251

**Author(s):** Wray, Faye; Clarke, David; Forster, Anne

**Purpose:** To systematically review self-management interventions to determine their efficacy for people with stroke in relation to any health outcome and to establish whether stroke survivors with aphasia were included.

**Method:** We searched MEDLINE, EMBASE, PsycINFO, CINAHL, The Cochrane Library, and IBSS and undertook gray literature searches. Randomized controlled trials were eligible if they included stroke survivors aged 18+ in a "self-management" intervention. Data were extracted by two independent researchers and included an assessment of methodological quality.

**Results:** 24 studies were identified. 11 out of 24 reported statistically significant benefits in favor of self-management. However, there were significant limitations in terms of methodological quality, and meta-analyses (n= 8 studies) showed no statistically significant benefit of self-management upon global disability and stroke-specific quality of life at 3 months or ADL at 3 or 6 months follow-up. A review of inclusion and exclusion criteria showed 11 out of 24 (46%) studies reported total or partial exclusion of stroke survivors with aphasia. Four out of 24 (17%) reported the number of stroke survivors with aphasia included. In nine studies (38%) it was unclear whether stroke survivors with aphasia were included or excluded.

**Conclusions:** Robust conclusions regarding the effectiveness of poststroke self-management approaches could not be drawn. Further trials are needed, these should clearly report the population included. Implications for rehabilitation There is a lack of evidence to demonstrate the effectiveness of self-management approaches for stroke survivors. It is unclear whether self-management approaches are suitable for stroke survivors with aphasia, particularly those with moderate or severe aphasia. Further research is needed to understand the optimal timing for self-management in the stroke pathway and the format in which self-management support should be offered. **Database:** Medline

---

**Title: Postoperative Rehabilitation Following Thumb Base Surgery: A Systematic Review of the Literature.**

**Citation:** Archives of physical medicine and rehabilitation; Jun 2018; vol. 99 (no. 6); p. 1177

**Author(s):** Wouters, Robbert M; Tsehaie, Jonathan; Hovius, Steven E R; Dilek, Burcu; Selles, Ruud W

**Objective:** To provide an overview of rehabilitation for patients who underwent first carpometacarpal joint (CMC-1) arthroplasty, with emphasis on early active mobilization.

**Data Sources:** PubMed/MEDLINE, Embase, CINAHL, and Cochrane were searched.

**Study Selection:** Articles written in English that described the postoperative regimen (including immobilization period/method and/or description of exercises/physical therapy, follow-up 6wk) on CMC-1 arthroplasty were included.

**Data Extraction:** The Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement was used as guidance in this review, and methodological quality was assessed using the Effective Public Health Practice Project quality assessment tool. Randomized studies were additionally scored using the Physiotherapy Evidence Database scale.

**Data Synthesis:** Twenty-seven studies were included consisting of 1015 participants, in whom 1118 surgical procedures were performed. A summary of the components of postoperative rehabilitation used in the included studies of CMC-1 osteoarthritis is presented for different surgical interventions. We found that early active recovery (including short immobilization, early initiation of range of motion and strength exercises) provides positive outcomes for pain, limitations in activities of daily living, and grip and pinch strength, but comparative studies are lacking. Furthermore, 3 postoperative exercises/therapy phases were identified in the literature-the acute phase, the unloaded phase, and the functional phase-but again comparative studies are lacking.

**Conclusions:** Early active recovery is used more often in the literature and does not lead to worse outcomes or more complications. This systematic review provides guidance for clinicians in the content of postoperative rehabilitation for CMC-1 arthroplasty. The review also clearly identifies the almost complete lack of high-quality comparative studies on postoperative rehabilitation after CMC-1 arthroplasty.

---

**Title: Provision of physiotherapy rehabilitation following neck dissection in the UK.**

**Citation:** The Journal of laryngology and otology; Jun 2018; p. 1-4

**Author(s):** Robinson, M; Ward, L; Mehanna, H; Paleri, V; Winter, S C

**Background:** Neck dissection is associated with post-operative shoulder dysfunction in a substantial number of patients, affecting quality of life and return to work. There is no current UK national practice regarding physiotherapy after neck dissection.

**Method:** Nine regional centres were surveyed to determine their standard physiotherapy practice pre- and post-neck dissection, and to determine pre-emptive physiotherapy for any patients.

**Results:** Eighty-nine per cent of centres never arranged any pre-emptive physiotherapy for any patients. Thirty-three per cent of centres offered routine in-patient physiotherapy after surgery. No centres offered out-patient physiotherapy for all patients regardless of symptoms. Seventy-eight per cent offered physiotherapy for patients with any symptoms, with 11 per cent offering physiotherapy for those with severe dysfunction only. Eleven per cent of centres never offered physiotherapy for any dysfunction.

**Conclusion:** The provision of physiotherapy is most commonly reactive rather than proactive, and usually driven by patient request. There is little evidence of pre-arranged physiotherapy for patients to treat or prevent shoulder dysfunction in the UK.

---

**Title: Terminology of Pelvic Floor Muscle Function in Women With and Without Urinary Incontinence: A Systematic Review.**

**Citation:** Physical therapy; Jul 2018

**Author(s):** Saltiel, Fernanda; Miranda-Gazzola, Ana P G; Vitória, Rayane O; Figueiredo, Elyonara M

**Background:** Pelvic floor muscle function (PFMF) is a target of the physical therapist intervention for women with urinary incontinence (UI). However, possible variations in PFMF terminology might hamper communication among researchers and health care professionals in Women's Health. Objective The objective of this study was to investigate the terminology of PFMF regarding clear terms and conceptual and operational definitions.

**Data Sources:** Data sources include PUBMED, CINAHL, LILACS, and SCIELO.

**Study Selection:** Observational studies investigating any PFMF in women with or without UI, published in English, Spanish, or Portuguese from 2005 through 2017, were considered. Data Extraction The risk of bias was assessed by a questionnaire on the quality of observational studies. Data on terminology were extracted as terms, conceptual definitions, and operational definitions of PFMF and were synthesized according to key words, key ideas, and key operationalization, respectively. Consistencies and variations were identified for the most frequently investigated PFMF.

**Data Synthesis:** Sixty-four studies were included, and a low risk of bias was identified. All studies presented terms and operational definitions of PFMF, but only 29.7% presented conceptual definitions of

those terms. One hundred ninety-six different terms referred to PFMF. According to similarities in terminology, 161 PFMF terms could be grouped under 26 terms; the other 35 were left ungrouped. Therefore, a total of 61 different PFMF terms were identified in the literature.

**Limitations:** A limitation in the study was that only observational studies were included.

**Conclusions:** A large variation in PFMF terminology was identified, precluding data gathering and meta-analysis. The lack of use of standardized terminology delays the progress of scientific knowledge and evidence-based practice dissemination. Efforts toward creating a collaborative, consensual terminology are necessary.

---

**Title: The ability of clinical balance measures to identify falls risk in multiple sclerosis: a systematic review and meta-analysis.**

**Citation:** Clinical rehabilitation; May 2018; vol. 32 (no. 5); p. 571-582

**Author(s):** Quinn, Gillian; Comber, Laura; Galvin, Rose; Coote, Susan

**Objective:** To determine the ability of clinical measures of balance to distinguish fallers from non-fallers and to determine their predictive validity in identifying those at risk of falls.

**Data Sources:** AMED, CINAHL, Medline, Scopus, PubMed Central and Google Scholar. First search: July 2015. Final search: October 2017.

**Review Methods:** Inclusion criteria were studies of adults with a definite multiple sclerosis diagnosis, a clinical balance assessment and method of falls recording. Data were extracted independently by two reviewers. Study quality was assessed using the Quality Assessment of Diagnostic Accuracy Studies-2 scale and the modified Newcastle-Ottawa Quality Assessment Scale. Statistical analysis was conducted for the cross-sectional studies using Review Manager 5. The mean difference with 95% confidence interval in balance outcomes between fallers and non-fallers was used as the mode of analysis.

**Results:** We included 33 studies (19 cross-sectional, 5 randomised controlled trials, 9 prospective) with a total of 3901 participants, of which 1917 (49%) were classified as fallers. The balance measures most commonly reported were the Berg Balance Scale, Timed Up and Go and Falls Efficacy Scale International. Meta-analysis demonstrated fallers perform significantly worse than non-fallers on all measures analysed except the Timed Up and Go Cognitive ( $p < 0.05$ ), but discriminative ability of the measures is commonly not reported. Of those reported, the Activities-specific Balance Confidence Scale had the highest area under the receiver operating characteristic curve value (0.92), but without reporting corresponding measures of clinical utility.

**Conclusion:** Clinical measures of balance differ significantly between fallers and non-fallers but have poor predictive ability for falls risk in people with multiple sclerosis.

---

**Title: The effectiveness of multi-dimensional resilience rehabilitation programs after traumatic physical injuries: a systematic review and meta-analysis.**

**Citation:** Disability and rehabilitation; Jun 2018 ; p. 1-16

**Author(s):** Heathcote, Katharine; Wullschleger, Martin; Sun, Jing

**Objective:** To synthesize evidence of the effectiveness of socio-ecological resilience rehabilitation programs on returning to work (RTW), self-efficacy, and stress mitigation following traumatic physical injuries.

**Methods:** PubMed, Scopus, Proquest, Cinahl, Web of Science, Clinical Trials Database, and the Cochrane Central Register of Controlled Trials databases were searched. Methodological quality was assessed using the PEDro tool.

**Study Selection:** Randomized interventions aimed at promoting resilience.

**Data Extraction:** Twenty one studies were reviewed (11,904 participants). Data from 19 studies of high methodological quality were pooled using a random-effects meta-analysis. Mean differences for continuous outcomes and risk ratios for binary outcomes were calculated.

**Data Synthesis:** Resilience rehabilitation programs significantly increased the likelihood of ever RTW (OR 2.09, 95% CI 0.99-4.44,  $p = 0.05$ ), decreased the number of days taken to return to work (mean difference -7.80, 95% CI -13.16 to -2.45,  $p \leq 0.001$ ), and increased total self-efficacy scores (mean difference 5.19, 95% CI 3.12-7.26,  $p < 0.001$ ). Subgroup analyses found that favorable return to work outcomes resulted from programs involving workplace support ( $p < 0.001$ ) and for people with musculoskeletal or orthopedic injuries ( $p = 0.02$ ).

**Conclusions:** Compared to rehabilitation programs providing standard care following injuries, programs aimed at developing resilience could improve reemployment outcomes and self-efficacy. Implications for rehabilitation Individual resilience may be an important factor promoting functional recovery after traumatic

injury. Resilience rehabilitation programs are effective in enabling patients' return to work and increasing their self-efficacy.

In particular, programs involving the workplace are important components for enabling optimal work participation outcomes.

---

**Title: The role of self-efficacy in pain intensity, function, psychological factors, health behaviors, and quality of life in people with rheumatoid arthritis: A systematic review.**

**Citation:** Physiotherapy theory and practice; Jun 2018 ; p. 1-17

**Author(s):** Martinez-Calderon, Javier; Meeus, Mira; Struyf, Filip; Luque-Suarez, Alejandro

**Objective:** The aim of this study was to systematically review and critically appraise the role of self-efficacy in pain intensity, function, psychological factors, health behaviors, and quality of life in people with rheumatoid arthritis, based on the analyses of longitudinal studies.

**Methods:** An electronic search of PubMed, AMED, CINAHL, PsycINFO, and PubPsych was carried out from inception to July 2017. Study selection was based on longitudinal studies which have explored the role of self-efficacy in rheumatoid arthritis. The Newcastle-Ottawa Scale adapted version was used to evaluate the risk of bias, whereas the Grading of Recommendations Assessment, Development and Evaluation evaluated the quality of the evidence per outcome.

**Results:** A total of 11 articles met the inclusion criteria. Our results suggest an association between higher self-efficacy and greater goal achievement, positive affect, acceptance of illness, problem-solving coping, physical function, physical activity participation, and quality of life. Inversely, there was also an association between higher self-efficacy and lower pain intensity, depressive symptoms, and anxiety.

**Conclusions:** The findings of this systematic review suggest that self-efficacy might have a positive effect on the prognosis of this condition, although further longitudinal studies are needed.

---

**Title: Turning problems and freezing of gait in Parkinson's disease: a systematic review and meta-analysis.**

**Citation:** Disability and rehabilitation; Jun 2018 ; p. 1-11

**Author(s):** Spildooren, Joke; Vinken, Cathérine; Van Baekel, Laura; Nieuwboer, Alice

**Objective:** To understand the differences of step and turn parameters between freezers and non-freezers during turning and determine the influence of turn angle and turn characteristics on freezing of gait.

**Data Sources:** PubMed and Web of Science were searched from the earliest data available to August 2017.

**Study Selection:** Case-control studies that examined the differences in turning while walking between freezers and non-freezers were included. Two reviewers selected studies independently.

**Data Extraction:** Methodological quality was evaluated by two independent reviewers using the STROBE checklist for case-control studies. Mean differences and 95% confidence intervals were calculated from pooled data for turn duration, peak turn velocity, number of steps and cadence. Center of mass deviation, segmental rotation, phase coordination and freezing of gait frequency were also extracted. When possible, different turning angles or spatial confounds were compared.

**Data Synthesis:** Sixteen studies met the inclusion criteria. Freezing of gait occurred in 38.2% of the freezers. Freezing appeared most frequently at the end of a turn and at the inner leg of the turn cycle. The meta-analysis revealed that turning in freezers was characterized by an increased turn duration, cadence and number of steps and a decreased peak turn velocity. Qualitative analysis showed that results concerning step width, step length and step time variability were inconsistent. Turning was characterized by an increased head-pelvis coupling and worse coordination in freezers compared to non-freezers. A decreased medial deviation of the center of mass was present prior to a freezing episode.

**Conclusions:** Both step and rotational parameters differed in freezers compared to non-freezers while turning. These differences increased with increasing task complexity (i.e., larger turning angle or spatial confounds during turning). The results suggest that improving axial rotation could be a valuable rehabilitation target to ameliorate freezing. Implications for rehabilitation Patients with freezing of gait turn with a larger arc and a smaller angle compared to non-freezing patients Freezing-related turning deficits have both spatiotemporal and rotational motor control components Improving axial rotation could be a novel rehabilitation target to ameliorate freezing.

**Disclaimer:** The results of your literature search are based on the request that you made, and consist of a list of references, some with abstracts. Royal United Hospital Bath Healthcare Library will endeavour to use the best, most appropriate and most recent sources available to it, but accepts no liability for the information retrieved, which is subject to the content and accuracy of databases, and the limitations of the search process. The library assumes no liability for the interpretation or application of these results, which are not intended to provide advice or recommendations on patient care.

