PMR BUZZ

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Moderate effect of ankle foot orthosis versus ground reaction ankle foot orthosis on balance in children with diplegic cerebral palsy.

Sanad, Doaa Ahmed
Prosthetics and Orthotics International: February 2022 - Volume 46 - Issue 1 - p 2-6

Abstract

Background

The children with diplegic cerebral palsy (CP) commonly have abnormal alignment of lower extremities affecting their abilities of keeping balance. Orthoses are one of the many approaches that can be prescribed to improve balance and walking in diplegic children.

Objective

This study was conducted to assess the moderate effect of solid ankle foot orthosis (AFO) vs. the ground reaction ankle foot orthosis (GRAFO) on balance in children with diplegic CP.

Study design

A randomized controlled trial.

Methods

Thirty children with spastic diplegic CP from both genders participated in this study; their ages were between 6 and 9 years. They were divided randomly into two study groups of equal numbers; the first study group A received the regular physical therapy program besides wearing the AFO for successive three months. The second study group B received the regular physical therapy program besides wearing the GRAFO for successive 3 months. All childrens' balance was evaluated before starting the treatment program and after 3 months by using the Biodex balance system (anteroposterior and mediolateral stability indices).

Results

There were significant improvement of all stability indices in both groups ($P < 0.05$), with significant difference between groups when comparing post-treatment mean values of the measured indices in favor to study group B ($P < 0.05$).

Conclusion

The GRAFO achieved more balance control in children with spastic diplegic CP compared with solid AFO.

Non-rigid lumbar supports for the management of non-specific low back pain: A literature review and meta-analysis.

Paul Gignoux, Charlotte Lanhers, Frédéric Dutheil, Laura Boutevillain, Bruno Pereira, Emmanuel Coudeyre.
Annals of Physical and Rehabilitation Medicine. 2022 Jan;65(1): 101406

Abstract

Background

Clinical practice guidelines for non-specific low back pain do not recommend the use of non-rigid lumbar supports (NRLSs) despite the publication of several positive randomized controlled studies.

Objective

We conducted a systematic review with meta-analysis to assess the efficacy of NRLSs in the treatment and prevention of non-specific low back pain.

Methods

We searched for reports of randomized controlled trials in PubMed, Cochrane Library, EMBASE, Science Direct and Pedro databases. Data were analyzed by disease stage (acute, subacute, and chronic) and type of prevention (primary and secondary). The analysis of methodological quality involved the Physiotherapy Evidence Database (PEDro) scale.

Results

Of the 1581 records retrieved, only 4 full-text articles were included, with 777 patients: 378 in the NRLS group, and 348 in the control group. NRLSs conferred greater amelioration of disability (effect size -0.54, 95% CI -0.90; -0.17) and pain (-0.29, -0.46; -0.12) than standard management. Insufficient data prevented a comparison of the efficiency for acute, subacute and recurrent low back pain as well as meta-regression of responder phenotypes (sociodemographic and other patient characteristics).

Conclusion

We demonstrated the overall efficacy of NRLSs for both disability and pain. However, further studies are needed to assess which patients can benefit the most from lumbar supports based on patient phenotype and the characteristics of low back pain.

Pregnancy, labor, and delivery outcomes of women with and without spinal cord injury.

McLain AB, Zhang L, Troncale J, Chen YY, Kalpakjan C
J Spinal Cord Med. 2022 Feb 2:1-9.

Objectives

Compare outcomes in pregnant women with and without Spinal Cord Injury (SCI).

Design

Case study and inception cohort comparison.

Setting

Community, primary care/referral center and university practice.

Participants

Twenty-eight pregnant women (12 with SCI (=PW-SCI) and 16 without SCI (=PW-AB)) were enrolled. Six PW-SCI left study and six completed data collection and were matched, by age, parity, and race, with 12 PW-AB (1:2 ratio, respectively). Final analysis included 18 (78%) subjects.

Interventions

Not applicable.

Main Outcome Measures

Utilizing standardized, templated medical records (published by NIH/NICHHD and DHHS) and self-report, prospective, longitudinal and retrospective details of pregnancy, labor and delivery experiences/complications were recorded for all women and their neonates. Data collection included vital signs, urinalysis, pregnancy-related conditions/complications (i.e. UTIs, hyperglycemia), and labor, delivery, fetal outcomes. For PW-SCI, demographics, occurrences of autonomic dysreflexia (AD), pressure sores, worsening SCI conditions (i.e. spasticity, bladder spasms, lost independence) were recorded.

Results

PW-SCI had statistically greater ($P < .05$) UTIs than PW-AB (three (50%) to 0 (0%), respectively). One PW-SCI (17%) reported pressure sores and one AD. Three (50%) PW-SCI and 4 (33%) PW-AB experienced a complication at delivery. Newborn mean birth weight (2854 g vs 3578 g; $P = 0.12$), and length (49.3 vs 45.8 cm; $P = 0.32$) were lower for PW-SCI than PW-AB. Head circumference was significantly less for PW-SCI than PW-AB (30.3 vs 34.5 cm; $P = 0.04$).

Conclusions

Women with SCI tend to have more complicated courses of pregnancy, labor and delivery and smaller newborns than non-SCI peers. Neonatal head circumference is significantly smaller.

Modulation of Metacognitive Confidence Judgments Through Provision of Performance Feedback in Moderate to Severe Traumatic Brain Injury.

Chiou KS, Klecha H, Jones M, Dobryakova E.
Journal of head trauma rehabilitation. 2022 Mar 26;37(2):71-8.

Abstract

Objective

Traumatic brain injury (TBI) may result in metacognitive impairments. Enhancing memory in healthy adults can improve metacognitive accuracy, but it is unclear whether such interventions apply to individuals with TBI. This study examined the effects of manipulating target memory experiences on metacognitive accuracy in TBI.

Participants

Fourteen community-dwelling adults with TBI and 17 healthy controls.

Main Measures

Memory was manipulated through performance feedback (monetary, nonmonetary, or none) presented during a word-pair learning task. Recognition of the word pairs was assessed, and metacognition was evaluated by retrospective confidence judgments.

Results

Both groups demonstrated greater recognition performance for items learned with nonmonetary feedback. Healthy individuals demonstrated improved metacognitive accuracy for items learned with nonmonetary feedback, but this effect was not seen in individuals with TBI. A notable (but statistically nonsignificant) effect was observed whereby adults with TBI overestimated performance for items learned with monetary feedback compared with other feedback conditions.

Conclusion

Provision of feedback during learning enhances recognition performance. However, target memory experiences may be utilized differently after injury to facilitate confidence judgments. In addition, the type of feedback provided may have different effects on metacognitive accuracy. These results have implications for rehabilitative efforts in the area of memory and metacognition after injury.

Poststroke aphasia treatment: A review of pharmacologic therapies and noninvasive brain stimulation techniques.

Capizzi AN, Woo JE, Magat E.
The Journal of the International Society of Physical and Rehabilitation Medicine. 2022 Jan 1;5(1):1.

Abstract

Aphasia is a common complication of stroke, often causing significant morbidity. To the authors' knowledge, no stroke recovery practice guidelines incorporating pharmacologic or noninvasive brain stimulation (NIBS) therapies for poststroke aphasia (PSA) exist. The aim of this article is to provide a comprehensive review of the evidence regarding pharmacologic and NIBS treatment in PSA. An exhaustive single database search assessing treatment for PSA was performed from 2010 to 2020, resulting in 1876 articles. Articles evaluating either pharmacologic management or NIBS were included. Case reports, case series, original research, systematic reviews, and meta-analyses were allowed. Pharmacologic treatment studies included were represented by the following medication classes: cholinergic, dopaminergic, gamma-aminobutyric acid agonists and derivatives, N-methyl-D-aspartate receptor antagonists, serotonergic, and autonomic agents. NIBS treatment studies regarding transcranial direct current stimulation (tDCS) or repetitive transcranial magnetic stimulation (rTMS) were evaluated. No strong evidence was found for any medication to improve PSA. However, the benefit of a medication trial may outweigh the risk of side effects as some evidence exists for functional recovery. Regarding NIBS, weak evidence exists for the treatment effect of tDCS and rTMS on PSA. While additional research is needed, the literature shows promise, especially in chronic phase of stroke when traditional treatment options may be exhausted. More evidence with larger studies and standardized study design is needed.

Keywords: Aphasia, stroke rehabilitation, transcranial direct current stimulation, transcranial magnetic stimulation

Lesion location may attenuate response to strategy training in acute stroke.

Elizabeth R. Skidmore PhD, OTR/L,Minmei Shih PhD, OTR/L,Lauren Terhorst PhD,Erin E O'Connor MD
PM&R. 2022 Mar;14(3):329-36.

Abstract

Background

Strategy training, a rehabilitation intervention, reduces disability and improves functional skills associated with goal-directed behavior. Stroke lesions impacting selected ventromedial regions of interest associated with initiation of goal-directed behavior may attenuate intervention response. If so, strategy training may not be optimal for people with stroke lesions in these regions.

Objective

To examine whether ventromedial regions of interest attenuate changes in disability status attributed to strategy training.

Design

Secondary analysis of data from two randomized controlled clinical trials.

Setting

Inpatient stroke rehabilitation.

Participants

People with acute stroke diagnosis and available diagnostic studies enrolled in inpatient rehabilitation randomized controlled studies between 2009 and 2017.

Intervention

Participants were randomized to strategy training or a control condition in addition to the usual care during inpatient rehabilitation.

Main Outcome Measures

Diagnostic magnetic resonance imaging studies were retrieved from electronic medical records, and stroke lesion location was characterized by a neuroradiologist. Intervention response was defined by Functional Independence Measure change scores of 22 points or greater.

Results

Only 186 of 275 participants had diagnostic studies available; 13 patients showed no apparent lesion on their diagnostic study. Among 173 cases, 156 had complete data at discharge (strategy training n = 71, control n = 85). Twenty-five cases had a lesion within a region of interest (strategy training n = 14, control n = 11). Intervention response was attenuated in the strategy training group for those with lesions in regions of interest [$\chi^2(1, n = 71) = 4.60$, $P = .03$], but not for those in the control group [Fisher exact test, $n = 85$, $P = .19$).

Conclusions

Lesions in the ventromedial regions of interest may attenuate response to strategy training.

Effects of whole-body vibration therapy on knee osteoarthritis: A systematic review and meta-analysis of randomized controlled trials.

Chen Guang QI, Chun Sing CH, Simon Kwoon Ho CH, Wing-Hoi CHEUNG RM.
Journal of Rehabilitation Medicine. 2022;54.

Abstract

Introduction

Knee osteoarthritis is a leading cause of disability and medical costs. The effect of whole-body vibration in knee osteoarthritis is controversial. The aim of this study was to assess the effects and safety of whole-body vibration on pain, stiffness, physical function, and muscle strength in patients with knee osteoarthritis.

Methods

PubMed, Scopus, Web of Science, Physiotherapy Evidence Database (PEDro) and EMBASE databases were searched (date last accessed 1 April 2021) using the key words "vibration" and "knee osteoarthritis", to identify all randomized controlled trials related to whole-body vibration and knee osteoarthritis. Outcomes related to pain, stiffness, physical function, muscle strength, adverse events were included. The risk of bias and quality were assessed by the Cochrane Collaboration tool and PEDro scale. A systematic review and meta-analysis were performed. Subgroup analysis was performed for low- and high-frequency interventions.

Results

A total of 14 randomized controlled trials involving 559 patients with knee osteoarthritis met the inclusion criteria. Nine studies were good-quality trials (PEDro score=6–8), and 5 studies were fair quality trials (PEDro score=4–5). Ten studies were included in the meta-analysis. One study showed negative effects of whole-body vibration on knee osteoarthritis. The duration of whole-body vibration ranged from 4 to 24 weeks. Meta-analysis revealed that whole-body vibration with strengthening exercises has a significant treatment effect on pain score (standardized mean difference (SMD) = 0.46 points, 95% confidence interval (95% CI) = 0.20–0.71, p = 0.0004), the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC-function) (SMD = 0.51 points, 95% CI = 0.27–0.75, p < 0.0001), Timed Up and Go (TUG) test (SMD = 0.82 points, 95% CI = 0.46–1.18, p < 0.00001), extensor isokinetic peak torque (SMD = 0.65 points, 95% CI = 0.00–1.29, p = 0.05), peak power (SMD = 0.68 points, 95% CI = 0.26–1.10, p = 0.001), and extensor isometric strength (SMD = 0.44 points, 95% CI = 0.13–0.75, p = 0.006). Both low-frequency (10–30 Hz) and high-frequency (30–40 Hz) whole-body vibration were associated with significant changes in pain, physical function, and knee extensor strength (p < 0.05). WBV was not associated with significant changes in stiffness, balance ability, quality of life, and knee flexor strength. No adverse events were reported.

Conclusion

Meta-analysis showed that low-frequency and high-frequency whole-body vibration had additional positive effects compared with strengthening exercises alone on pain, knee extensor muscle strength, and physical function in individuals with knee OA. Whole-body vibration with strengthening exercises can be incorporated into treatment protocols.

Highly cushioned shoes improve running performance in both the absence and presence of muscle damage.

Black MI, Kranen SH, Kadach S, Vanhatalo A, Winn B, Farina EM, Kirby BS, Jones AM.
Medicine and science in sports and exercise. 2022 Apr;54(4):633.

Abstract

Purpose

We tested the hypotheses that a highly cushioned running shoe (HCS) would 1) improve incremental exercise performance and reduce the oxygen cost (Oc) of submaximal running, and 2) attenuate the deterioration in Oc elicited by muscle damage consequent to a downhill run.

Methods

Thirty-two recreationally active participants completed an incremental treadmill test in an HCS and a control running shoe (CON) for the determination of Oc and maximal performance. Subsequently, participants were pair matched and randomly assigned to one of the two footwear conditions to perform a moderate-intensity running bout before and 48 h after a 30-min downhill run designed to elicit muscle damage.

Results

Incremental treadmill test performance was improved (+5.7%; +1:16 min:ss; $P < 0.01$) in the HCS when assessed in the nondamaged state, relative to CON. This coincided with a significantly lower Oc (-3.2%; -6 mL•kg-1•km-1; $P < 0.001$) at a range of running speeds and an increase in the speed corresponding to 3 mM blood lactate (+3.2%; +0.4 km•h-1; $P < 0.05$). As anticipated, the downhill run resulted in significant changes in biochemical, histological, and perceptual markers of muscle damage, and a significant increase in Oc (+5.2%; 10.1 mL•kg-1•km-1) was observed 48 h post. In the presence of muscle damage, Oc was significantly lower in HCS (-4.6%; -10 mL•kg-1•km-1) compared with CON.

Conclusions

These results indicate that HCS improved incremental exercise performance and Oc in the absence of muscle damage and show, for the first time, that despite worsening of Oc consequent to muscle damage, improved Oc in HCS is maintained.

Jumping stump phenomenon: A case report.

Rombauts M, Duinslaeger E, Peers K, Kiekens C.
Prosthetics and Orthotics International. 2022 Apr 1;46(2):191-4.

Abstract

Case description

The jumping stump phenomenon is a peripherally induced movement disorder that is due to peripheral nerve damage. We report on a very resistant case in which different treatment strategies were applied.

Objectives

To inform physicians about this condition, its implications, and treatment options.

Study design

Case report of a 52-year-old man with a transtibial amputation, experiencing very painful involuntary muscle contractions in the residual limb.

Treatment and outcomes

Various drug treatments, including baclofen, diazepam, clonazepam, clotiazepam, pramipexole, and pregabalin, peroneal nerve block, prosthesis modifications, and physiotherapy were ineffective for our patient. Botulinum toxin A treatment showed temporary decrease of symptoms but was not repeated because of high cost for the patient and his fear of injections. In our case, tibial nerve neuroma had no ectopic trigger zone, so local treatment was not indicated. Surgical interventions, based on contraction location and muscle tension, were partially successful. Eventually, due to serious functional and psychological impact, a transfemoral amputation was performed, with complete resolution of symptoms but recurrence later that year. Relapse was correlated with recurrence of local residual limb pain.

Conclusions

Treating this phenomenon remains challenging because pathophysiology is still not fully understood, and the available literature is limited. A multiprofessional and interdisciplinary treatment approach is recommended, and botulinum toxin treatment is promising.

Relationship Between CT Head Findings and Long-term Recovery in Children with Complicated Mild Traumatic Brain Injury.

Hansen C, Waller LC, Brady D, Teramoto M.
Brain Injury. 2022 Feb 7:1-0.

Primary objective

Complicated mild traumatic brain injury (C-mTBI) refers to CT positive patients with clinically mild TBI. This study investigates the association between CT head findings at time of injury and recovery of paediatric patients with C-mTBI.

Research design

Retrospective survey and chart review.

Methods

For paediatric patients with C-mTBI (N = 77), CT findings associated with corresponding degree and lengths of recovery from C-mTBI using logistic regression analysis.

Results

There was a trend that the odds of incomplete recovery at the time of survey was higher for older children than for younger children (OR = 1.14, 95% CI = 0.98–1.32, p = 0.072). There was a trend that the odds of incomplete recovery (OR = 6.26, 95% CI = 0.97–40.57, p = 0.054) and longer duration for recovery (OR = 8.14, 95% CI = 0.78–84.46, p = 0.079) was higher for children with multiple haemorrhagic contusions than those with single haemorrhagic contusion. No other imaging patterns predicted degree or length of recovery with statistical significance (p > 0.05).

Conclusions

Other than the presence of multiple haemorrhagic contusions, no other pattern of imaging abnormality in paediatric C-mTBI appears to be associated with degree or length of recovery. Further studies with larger cohorts are encouraged.

Assisted Movement With Proprioceptive Stimulation Augments Recovery From Moderate-To-Severe Upper Limb Impairment During Subacute Stroke Period: A Randomized Clinical Trial.

Cordo P, Wolf S, Rymer WZ, Byl N, Stanek K, Hayes JR.
Neurorehabilitation and Neural Repair. 2022 Feb;36(3):239-250.

Background

Robotic assisted movement has become an accepted method of treating the moderately-to-mildly impaired upper limb after stroke.

Objective

To determine whether, during the subacute phase of recovery, a novel type of robotic assisted training reduces moderate-to-severe impairment in the upper limb beyond that resulting from spontaneous recovery and prescribed outpatient therapy.

Methods

A prospective, randomized, double-blinded, placebo-controlled, semi-crossover study of 83 participants. Over 6- to 9-weeks, participants received 18, 30-min training sessions of the hand and wrist. The test intervention consisted of assisted motion, biofeedback, and antagonist muscle vibration delivered by a robotic device. Test Group participants received the test intervention, and Control Group participants received a placebo intervention designed to have no effect. Subsequently, Control Group participants crossed over to receive the test intervention.

Results

At enrollment, the average age (±SD) of participants was 57.0 ± 12.8 year and weeks since stroke was 11.6 ± 5.4. The average Fugl-Meyer baseline score of Test Group participants was 20.9, increasing by 10.8 with training, and in Control Group participants was 23.7 increasing by 6.4 with training, representing a significant difference (4.4) in change scores (P = .01). During the crossover phase, Control Group participants showed a significant increase in FMA-UL score (i.e., 4.7 ± 6.7 points, P = .003) as well as in other, more specific measures of impairment.

Conclusions

Robotic impairment-oriented training, as used in this study, can significantly enhance recovery during the subacute phase of recovery. Spontaneous recovery and prescribed outpatient therapy during this phase do not fully exploit the potential for remediating moderate-to-severe upper limb impairment.

Characteristics of the severely impaired hand in survivors of stroke with chronic impairments.

Barry AJ, Kamper DG, Stoykov ME, Triandafilou K, Roth E.
Topics in Stroke Rehabilitation. 2022 Mar 24:181-91.

Background

Diminished sensorimotor control of the hand is one of the most common outcomes following stroke. This hand impairment substantially impacts overall function and quality of life; standard therapy often results in limited improvement. Mechanisms of dysfunction of the severely impaired post-stroke hand are still incompletely understood, thereby impeding the development of new targeted treatments.

Objectives

To identify and determine potential relationships among the mechanisms responsible for hand impairment following stroke

Methods

This cohort study observed stroke survivors (n = 95) with severe, chronic hand impairment (Chedoke-McMaster Hand score = 2–3). Custom instrumentation created precise perturbations and measured kinematic responses. Muscle activation was recorded through electromyography. Strength, spasticity, muscle relaxation time, and muscle coactivation were quantified.

Results

Maximum grip strength in the paretic hand was only 12% of that achieved by the nonparetic hand, and only 6 of 95 participants were able to produce any net extension force. Despite force deficits, spastic reflex response of the finger flexor evoked by imposed stretch averaged 90.1 ± 26.8% of maximum voluntary activation, relaxation time averaged 3.8 ± 0.8 seconds, and coactivation during voluntary extension exceeded 30% of maximum contraction, thereby resulting in substantial net flexion. Surprisingly, these hypertonicity measures were not significantly correlated with each other.

Conclusions

Survivors of severe, chronic hemiparetic stroke experience profound weakness of both flexion and extension that arises from increased involuntary antagonist activation and decreased voluntary activation. The lack of correlation amongst hypertonicity measures suggests that these phenomena may arise from multiple, potentially independent mechanisms that could require different treatments.

Guideline for the management of neurogenic bowel dysfunction in spinal cord injury/disease.

Kurze I, Geng V, Böthig R.
Spinal cord. 2022 Mar 25:1-9.

Introduction

Almost all people with spinal cord injury/disease (SCI/D) suffer from neurogenic bowel dysfunction (NBD), with a considerable impact on quality of life. The Association of the Scientific Medical Societies in Germany (AWMF e.V.) guideline for NBD in SCI/D aims to provide practice-oriented support for the care of patients with NBD resulting from congenital or aquired SCI/D. The guideline describes the diagnosis and bowel management of NBD in people with SCI/D. Thus, treatment processes in acute medical care and rehabilitation as well as for lifelong aftercare are presented.

Methods

The present guideline was developed under the leadership of the German-speaking Medical Society for Paraplegiology in a multiprofessional interdisciplinary guideline team. To exceed the level of expert recommendations, consensus was reached within the framework of a structured nominal group process in defined steps under neutral moderation considering the criteria of the German guideline development instrument (DELBI).

Results

Individual bowel management must be developed on the basis of an adequate diagnosis and considering the different lesion types. Due to the multifactorial influenceability of the intestine and the individual neurological deficit, a simple to-do checklist is not effective. Various and complex bowel management programmes are the basis of the treatment of NBD.

Conclusions

Guidelines can only be successful in so far as they are applied in everyday life. Of course, the selection and application of the measures described must always take into consideration the individual situation of the person concerned, and the correct application is always a prerequisite for success.

End-range Maitland mobilization decreasing pain sensitivity in knee osteoarthritis: randomised, controlled clinical trial.

Miklo□s POZSGAI, Antal Iva□n Pe□TER, Pe□ter THAN, Nelli FARKAS, No□ra NUSSER
European Journal of Physical and Rehabilitation Medicine 2022 Jan 05
DOI: 10.23736/S1973-9087.22.06680-1

Background

Pressure pain threshold (PPT) is a widely applied method for measuring the magnitude of increased peripheral and central pain sensitivity causing hyperalgesia in knee osteoarthritis (OA). Although manual therapy techniques effects positively PPT, the effect of end-range Maitland mobilization has not been evaluated in knee OA.

Aim

To investigate the effect of end-range Maitland mobilization compared to sham manual therapy technique on PPT and function-related measures.

Design

Randomised, controlled clinical trial.

Setting

Outpatient setting.

Population

Forty women with moderate-to-severe knee OA.

Methods

Twenty patients (n=20) were randomly assigned to Maitland Group (MG) and twenty patients (n=20) to Control Group (CG). Patients in MG received single end-range Maitland mobilization while patients in CG received sham manual therapy technique. Assessment was performed at baseline, 30 minutes and after 1-week period. Outcome measures were PPT locally at knee and distant at ipsilateral Extensor Carpi Radialis Longus muscle, general pain during the previous week using the Visual Analogue Scale (VAS), Timed Up and Go Test (TUG) time associated with pain measured with Numerating Pain Rating Scale (NPRS) and strength of passive resistance of knee at onset of pain.

Results

Despite all outcome measures improved significantly postintervention, no changes were detected after 1-week period compared to postintervention in MG. No change of outcome measures was found also postintervention and after 1-week period compared to postintervention in CG. All postintervention results showed significant improvement in between-group comparison in favour of MG. However, after 1-week period, only strength of passive resistance revealed significant difference in between-group comparison in favour of MG ($P<0.001$).

Conclusions

Although end-range Maitland mobilization has an immediate effect on decreasing peripheral and central pain sensitivity and improving function-related measures in knee OA, these changes may not cause clinically relevant effect based on data measured after 1-week period.

Clinical rehabilitation impact

Investigating the time-course of end-range Maitland mobilization for determining the optimal treatment frequency during rehabilitation is suggested in knee OA.

Person-Centered Rehabilitation Model: Framing the Concept and Practice of Person-Centered Adult Physical Rehabilitation Based on a Scoping Review and Thematic Analysis of the Literature.

Jesus TS, Papadimitriou C, Bright FA, Kayes NM, Pinho CS, Cott CA.
Arch Phys Med Rehabil. 2022 Jan;103(1):106-120.

Objective

To develop a cross-professional model framing the concept and practice of person-centered rehabilitation (PCR) in adult populations, based on a scoping review and thematic analysis of the literature.

Data sources

Key databases (PubMed, Scopus, Cumulative Index to Nursing and Allied Health), snowballing searches, and experts' consultation were the data sources for English-language empirical or conceptual articles published from January 2007-February 2020.

Study selection

Two independent reviewers selected adult-based articles addressing at least 1 of the 6 categories of PCR-related content, a priori specified in the published review protocol. From 6527 unique references, 147 were finally included in the analysis. Of those, 26 were exclusively conceptual articles.

Data extraction

Two independent reviewers extracted textual data on what PCR entails conceptually or as a practice. No quality appraisals were performed as is typical in scoping reviews.

Data synthesis

A thematic analysis produced thematic categories that were combined into an emergent model (the PCR Model), which was reviewed by 5 external experts. PCR was framed as a way of thinking about and providing rehabilitation services "with" the person. PCR is embedded in rehabilitation structures and practice across 3 levels: (1) the person-professional dyad; (2) the microsystem level (typically an interprofessional team, involving significant others); and (3) a macrosystem level (organization within which rehabilitation is delivered). Thematic categories are articulated within each level, detailing both the conceptual and practice attributes of PCR.

Conclusions

The PCR Model can inform both clinical and service organization practices. The PCR Model may benefit from further developments including obtaining wider stakeholders' input, determining relevance in different cultural and linguistic groups, and further operationalization and testing in implementation projects.

Autologous Platelet-Rich Plasma Applications in Chronic Pain Medicine: Establishing a Framework for Future Research - A Narrative Review.

Ferreira-Dos-Santos G, Hurdle MFB, Clendenen SR, Eldrige JS, Qu W.
Pain Physician. 2022 Jan;25(1):15-27.

Background

During the last decades, platelet-rich plasma has been studied for the treatment of multiple chronic pain conditions, in addition to being employed in the enhancement of healing after tissue injury.

Objective

To establish a framework for future research regarding the utilization of platelet-rich plasma in the treatment of chronic tissue injuries.

Methods

Preclinical and clinical studies from 2000-2020 relevant to applications of platelet-rich plasma for the treatment of chronic pain conditions were extracted from PubMed and Medline databases. The studies were analyzed on the basis of the study population, type of intervention, method of platelet-rich plasma preparation, the number of treatments administered, the timeframe of injections, and clinical outcomes.

Results

Although several preclinical studies and double-blind, randomized trials have shown promising results in the application of platelet-rich plasma for the treatment of multiple chronic pain conditions, various studies have also reported controversial results. Additionally, the methods employed for obtaining the platelet-rich plasma have not been standardized between studies, resulting in different concentrations of blood components between the preparations utilized. Moreover, differences between studies were also found regarding the number of injections administered per treatment.

Conclusions

Future research addressing the utilization of platelet-rich plasma in the treatment of chronic pain conditions should focus on shedding light on the following major questions: a) Is there a dose-effect relation between the platelet count and the clinical efficacy of the preparation?; b) What pathology determinants should be considered when selecting between leukocyte-enriched and leukocyte-depleted concentrates?; c) What is the role of platelet activation methods on the clinical efficacy of platelet-rich plasma?; d) Is there an optimal number of injections and time frame for application of multiple injection treatment cycles?; e) Does the addition of local anesthetics affect the clinical efficacy of platelet-rich plasma?; and f) Is there potential for future platelet-rich plasma applications for the treatment of neuropathic pain of peripheral origin?

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CREATING POSSIBILITIES IN CEREBRAL PALSY

Abridged Prescribing Information (BACLOF)
Active Ingredient: each tablet of BACLOF contains: baclofen 10, 25 mg, BACLOF liquid contains baclofen 5mg/5ml, 100 ml bottle. **Indication:** treatment of spasticity resulting from multiple sclerosis, particularly for the relief of flexor spasms and concomitant pain, clonus, and muscular rigidity. **Dosage:** Tablets: Initiate with a low dosage, preferably in divided doses, administered orally. Increase gradually based on clinical response and tolerability. The maximum dosage is 80 mg daily (20 mg four times a day). When discontinuing, reduce the dosage slowly. Liquid: adults: One 5ml spoonful (5mg) 3 times a day for 3 days; Two 5ml spoonfuls (10mg) 3 times a day for 3 days; Three 5ml spoonfuls (15mg) 3 times a day for 3 days; Four 5ml spoonfuls (20mg) 3 times a day for 3 days. Elderly: Small doses should be used at the start of treatment, the dose being titrated gradually against the response, under careful supervision. Paediatric population (0 to <18 years): A dosage of 0.75-2mg/kg body weight should be used. In children over ten years of age, however a maximum daily dosage of 2.5mg/kg body weight may be given. Treatment is usually started with half a 5ml spoonful (2.5mg) given 4 times daily. The recommended daily dosages for maintenance therapy are as: 12 months – 2 years: Two to four 5ml spoonfuls (10-20mg), 2 years – 6 years: Four to six 5ml spoonfuls (20-30mg); 6 years – 10 years: Six to twelve 5ml spoonfuls (30-60mg). **Contraindications:** hypersensitivity to baclofen or any component of this product. **Warning and precautions:** Abrupt discontinuation of baclofen has resulted in serious adverse reactions including death; therefore, reduce the dosage slowly when baclofen is discontinued. Neonatal withdrawal symptoms can occur; gradually reduce the dosage and discontinue baclofen before delivery. Baclofen can cause drowsiness and sedation. Patients should avoid the operation of automobiles or other dangerous machinery until they know how the drug affects them. Advise patients that the central nervous system effects of baclofen may be additive to those of alcohol and other CNS depressants. Baclofen can cause exacerbation of the following: psychotic disorders, schizophrenia, or confusional states; autonomic dysreflexia; epilepsy. Use with caution in patients with these condition. **Pregnancy & Lactation:** Pregnancy: Based on animal data, may cause fetal harm. At recommended oral doses, baclofen is present in human milk. There are no human data on the effects of baclofen on milk production and on breastfed infant. **Interaction:** CNS depressants like benzodiazepines, antihistamine, antipsychotic, and alcohol etc., may cause increased sedative effects. Morphine (epidural) may cause hypotension and dyspnea. Laboratory Test Interactions may cause false elevation of AST (aspartate aminotransferase), alkaline phosphatase, or blood glucose. **Adverse reactions:** most common drowsiness, dizziness, and weakness. **Overdose:** Symptoms: Patients may present in coma or with progressive drowsiness, lightheadedness, dizziness, somnolence, accommodation disorders, respiratory depression, seizures, or hypotonia progressing to loss of consciousness. Treatment: includes gastric decontamination, maintaining an adequate airway and respirations. (Prepared on 23rd Feb 2020. It is recommended to refer full prescribing information before prescription. For further medical information, please write to: Intas Pharmaceuticals Ltd., Corporate House, Near Sola Bridge, SG highway, Thaltej, Ahmedabad-380054, Gujarat, India. productqueries@intaspharma.com.)

Abridged Prescribing Information (BACLOF LIQUID)
Active Ingredient: each tablet of BACLOF contains: baclofen 10, 25 mg, BACLOF liquid contains baclofen 5mg/5ml, 100 ml bottle. **Indication:** treatment of spasticity resulting from multiple sclerosis, particularly for the relief of flexor spasms and concomitant pain, clonus, and muscular rigidity. **Dosage:** Tablets: Initiate with a low dosage, preferably in divided doses, administered orally. Increase gradually based on clinical response and tolerability. The maximum dosage is 80 mg daily (20 mg four times a day). When discontinuing, reduce the dosage slowly. Liquid: adults: One 5ml spoonful (5mg) 3 times a day for 3 days; Two 5ml spoonfuls (10mg) 3 times a day for 3 days; Three 5ml spoonfuls (15mg) 3 times a day for 3 days; Four 5ml spoonfuls (20mg) 3 times a day for 3 days. Elderly: Small doses should be used at the start of treatment, the dose being titrated gradually against the response, under careful supervision. Paediatric population (0 to <18 years): A dosage of 0.75-2mg/kg body weight should be used. In children over ten years of age, however a maximum daily dosage of 2.5mg/kg body weight may be given. Treatment is usually started with half a 5ml spoonful (2.5mg) given 4 times daily. The recommended daily dosages for maintenance therapy are as: 12 months – 2 years: Two to four 5ml spoonfuls (10-20mg), 2 years – 6 years: Four to six 5ml spoonfuls (20-30mg); 6 years – 10 years: Six to twelve 5ml spoonfuls (30-60mg). **Contraindications:** hypersensitivity to baclofen or any component of this product. **Warning and precautions:** Abrupt discontinuation of baclofen has resulted in serious adverse reactions including death; therefore, reduce the dosage slowly when baclofen is discontinued. Neonatal withdrawal symptoms can occur; gradually reduce the dosage and discontinue baclofen before delivery. Baclofen can cause drowsiness and sedation. Patients should avoid the operation of automobiles or other dangerous machinery until they know how the drug affects them. Advise patients that the central nervous system effects of baclofen may be additive to those of alcohol and other CNS depressants. Baclofen can cause exacerbation of the following: psychotic disorders, schizophrenia, or confusional states; autonomic dysreflexia; epilepsy. Use with caution in patients with these condition. **Pregnancy & Lactation:** Pregnancy: Based on animal data, may cause fetal harm. At recommended oral doses, baclofen is present in human milk. There are no human data on the effects of baclofen on milk production and on breastfed infant. **Interaction:** CNS depressants like benzodiazepines, antihistamine, antipsychotic, and alcohol etc., may cause increased sedative effects. Morphine (epidural) may cause hypotension and dyspnea. Laboratory Test Interactions may cause false elevation of AST (aspartate aminotransferase), alkaline phosphatase, or blood glucose. **Adverse reactions:** most common drowsiness, dizziness, and weakness. **Overdose:** Symptoms: Patients may present in coma or with progressive drowsiness, lightheadedness, dizziness, somnolence, accommodation disorders, respiratory depression, seizures, or hypotonia progressing to loss of consciousness. Treatment: includes gastric decontamination, maintaining an adequate airway and respirations. (Prepared on 23rd Feb 2020. It is recommended to refer full prescribing information before prescription. For further medical information, please write to: Intas Pharmaceuticals Ltd., Corporate House, Near Sola Bridge, SG highway, Thaltej, Ahmedabad-380054, Gujarat, India. productqueries@intaspharma.com.)

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