

**1. Efecto de la Hipoteràpia en esclerosis múltiple: estudio piloto en calidad de vida, espasticidad, marcha, suelo pélvico, depresión y fatiga**

**Autors:** Susana Muñoz-Lasa, Carlos López de Silanes, M. Ángeles Atín-Arratibel, Carmen Bravo-Llatas, Salvador Pastor-Jimeno y Nuria Máximo-Bocanegra

**Revista:** Elsevier (Vol. 152, Núm. 2)

**Data:** Enero 2019

**Abstract**

**INTRODUCTION AND OBJECTIVE:**

Hippotherapy is being used as a promising method in the physical treatment of multiple sclerosis (MS).

**MATERIAL AND METHOD:**

Comparative open clinical pre-post study into hippotherapy intervention during a 6-month period in patients with MS (n = 6). Not randomised and with control group (n = 4). The study was performed by MHG Foundation.

**RESULTS:** A statistically significant improvement was observed in the therapy group in: spasticity pre-post measured by the modified Ashworth scale (P = .01). Statistically significant improvement in fatigue impact

(P < .0001) measured with FIS; in general, perception of health outcome in urinary quality of life scale KHQ

(P = .033), and in subscales 2, 3 and 4 of MSQOL-54 (P = .011). Control group showed no improvement in any scale.

**CONCLUSIONS:** This study reinforces current literature that supports hippotherapy as an adequate intervention for MS patients. Further studies with more participants, control groups and blinded research would be logical steps for future research in this field.

---

## 2. Activation of lower limb muscles with different types of mount in hippotherapy

**Autors:** Mariane Fernandes Ribeiro, Ana Paula Espindula, Domingos Emanuel Bevilacqua Júnior, Jéssica Aparecida Tolentino, Carolina Fioroni Ribeiro da Silva, et al.

**Revista:** Journal of Bodywork and movement Therapies (Vol. 22, Núm. 1)

**Data:** gener 2018

### Abstract

**OBJECTIVES:** To analyze muscle activation of lower limbs (LL) of subjects in hippotherapy sessions.

**METHODS:** The study included 10 healthy subjects, five males and five females, with an average age of 24.03 ( $\pm 4.06$ ) years. Subjects underwent four hippotherapy sessions of 30 min with interval of one week, and each session was performed with a different type of mount material in the following order: 1st performed with saddle and feet in the stirrups (S1), 2nd with saddle and feet off the stirrups (S2), 3rd with blanket and feet off the stirrup (S3) and 4th with blanket and feet in the stirrups (S4). Surface electromyographies were performed at 1, 10, 20 and 30 min of session, and the electrodes were placed on muscle bellies bilaterally on the muscles rectus femoris, vastus medialis, vastus lateralis and tibialis anterior.

**RESULTS:** The analysis of muscle activity during these four sessions showed a significant difference in muscle recruitment in LL, and sessions with blanket and feet in the stirrups provided greater muscle activation of quadriceps and tibialis anterior with the horse at step gait ( $p \leq 0.0002$ ).

**CONCLUSION:** The results suggest that feet positioned in the stirrups is a relevant factor for greater muscle recruitment in LL to maintain postural balance while riding, especially using a blanket as mount material for ride a horse

---

### 3. What is hippotherapy? The indications and effectiveness of hippotherapy

**Autors:** Tuba Tulay Koca, Hilmi Ataseven

**Revista:** North Clin Istanbul (Vol. 2, Núm. 3)

**Data:** 2015

#### Abstract

Hippotherapy is a form of physical, occupational and speech therapy in which a therapist uses the characteristic movements of a horse to provide carefully graded motor and sensory input. A foundation is established to improve neurological function and sensory processing, which can be generalized to a wide range of daily activities. Unlike therapeutic horseback riding (where specific riding skills are taught), the movement of the horse is a means to a treatment goal when utilizing hippotherapy as a treatment strategy. Hippotherapy has been used to treat patients with neurological or other disabilities, such as autism, cerebral palsy, arthritis, multiple sclerosis, head injury, stroke, spinal cord injury, behavioral disorders and psychiatric disorders. The effectiveness of hippotherapy for many of these indications is unclear, and more research has been needed. Here, we purpose to give information about hippotherapy which is not known adequately by many clinicians and health workers.

#### **CONCLUSION:**

Hippotherapy is a treatment modality whose effectiveness has been confirmed in a large patient group with physical or mental disabilities when applied by an experienced therapist with the aid of a horse.

Equine-assisted therapy is being used widely in many countries of the world. We think that as the importance of hippotherapy is acknowledged more deeply by physicians, and therapists in our country, greater number of patients, and their families will benefit from this form of treatment

---

#### 4. A qualitative exploration of post-acute stroke participants' experiences of a multimodal intervention incorporating horseback riding

**Autors:** Petra Pohl, Gunnel Carlsson, Lina Bunketorp Käll, Michael Nilsson, Christian Blomstrand

**Revista:** PloS One (Vol. 13, Núm. 9)

**Data:** setembre 2018

##### **Abstract**

##### **BACKGROUND:**

Multimodal rehabilitation interventions delivered in late phase of stroke recovery involve physical (motor and sensory), social, and cognitively challenging activities. Horseback riding can be incorporated within such interventions, leading to meaningful long-term improvements when applied to individuals with moderate levels of disability. There is a lack of research illuminating stroke survivors' experiences and perceptions of horseback riding in the context of multimodal interventions.

##### **OBJECTIVES:**

To explore stroke survivors' experiences of participation in a multimodal group-based intervention that included horseback riding.

##### **METHODS**

An explorative interview study was conducted with individual face-to-face interviews performed on a single occasion, utilising a semi-structured interview guide. Eighteen participants were purposively selected from a larger trial (mean age 62, 12 men, 6 women) within four weeks after treatment completion. The interview duration was between 17 and 50 minutes.

The data was analysed using a qualitative content analysis method.

##### **FINDINGS:**

Four broad themes were identified from the analysis. These themes were: transformative experiences; human±horse interaction; togetherness and belonging; and the all-in-one solution.

Interacting with the horse and peers had a profound emotional impact on the participants. The participants also reported having learned new skills, increased self-efficacy and self-esteem, and improvements in balance and gait, all of which could be transferred to everydaylife. The horse itself played a central role, but other components, such as the other group members, the instructors, and the challenging tasks on the horseback, were also important.

##### **CONCLUSION**

A multimodal rehabilitation intervention that includes horseback riding may provide stroke survivors in a late phase of recovery with rich pleasurable experiences that may have life changing and profound impacts on their emotional and physical state.

---

## 5. Hippotherapy in Rehabilitation Care for Children With Neurological Impairments and Developmental Delays: A Case Series

**Autors:** Kathryn A Kraft, Janet Weisberg, Michael D Finch, Amanda Nickel, Kristen H Griffin, Timothy L Barnes

**Revista:** Pediatric Physical Therapy (Vol. 31, Núm. 1)

**Data:** Gener 2019

### **Abstract**

#### **PURPOSE:**

This report assesses functional mobility in children with neurological impairments and documented gross motor delays, before and after receiving either hippotherapy or standard outpatient physical therapy (PT).

#### **SUMMARY OF KEY POINTS:**

This is a case-series report using data previously collected for a discontinued randomized controlled trial, in which participants received hippotherapy or standard outpatient clinic PT for a 12-week treatment period. Results demonstrated both subjective and objective functional mobility improvements after treatment in participants receiving hippotherapy and standard outpatient PT, as determined by the Peabody Developmental Motor Scales-2, the Pediatric Evaluation of Disability Inventory, and the Goal Attainment Scaling.

**STATEMENT OF CONCLUSION AND RECOMMENDATIONS FOR CLINICAL PRACTICE:** When compared with standard outpatient PT, hippotherapy appears to be a viable treatment strategy for children aged 2 to 5 years with neurological impairments and gross motor delays, but additional research in this area is needed to validate findings. (Pediatr Phys Ther 2019;31:E14–E21) Key words: equine movement, functional delays, neurological impairments

---

## 6. Parameters of the center of pressure displacement on the saddle during hippotherapy on different surfaces

**Autors:** Fabiana M. Flores, Frederico Dagnese, Carlos B. Mota, Fernando Copetti

**Revista:** Bazilian Journal of Physical Therapy (Vol. 19, Núm. 3)

**Data:** juny 2012

### Abstract

#### **BACKGROUND:**

Hippotherapy uses horseback riding movements for therapeutic purposes. In addition to the horse's movement, the choice of equipment and types of floor are also useful in the intervention. The quantification of dynamic parameters that define the interaction of the surface of contact between horse and rider provides insight into how the type of floor surface variations act upon the subject's postural control.

#### **OBJECTIVE:**

To test whether different types of surfaces promote changes in the amplitude (ACOP) and velocity (VCOP) of the center of pressure (COP) displacement during the rider's contact with the saddle on the horse's back.

#### **METHOD:**

Twenty-two healthy adult male subjects with experience in riding were evaluated. The penetration resistances of asphalt, sand and grass surfaces were measured. The COP data were collected on the three surfaces using a pressure measurement mat.

#### **RESULTS:**

ACOP values were higher in sand, followed by grass and asphalt, with significant differences between sand and asphalt (anteroposterior,  $p=0.042$ ; mediolateral,  $p=0.019$ ). The ACOP and VCOP values were higher in the anteroposterior than in the mediolateral direction on all surfaces (ACOP,  $p=0.001$ ; VCOP,  $1.11, 2.1, 2.12$   $p=0.006$ ). The VCOP did not differ between the surfaces.

#### **CONCLUSION:**

Postural control, measured by the COP displacement, undergoes variations in its amplitude as a result of the type of floor surface. Therefore, these results reinforce the importance of the choice of floor surface when defining the strategy to be used during hippotherapy intervention.

---

## 7. A systematic review of interventions for children with cerebral palsy: state of the evidence

**Autors:** Iona Novak, Sarah McIntyre, Catherine Morgan, Lanie Campbell, Leigha Dark, Natalie Morton, Elise Stumbles, Salli-Ann Wilson, Shona Goldsmith

**Revista:** Developmental Medicine & Child Neurology (Vol. 55, Núm. 10)

**Data:** octubre 2013

### Abstract

#### **OBJECTIVE:**

The aim of this study was to describe systematically the best available intervention evidence for children with cerebral palsy (CP).

#### **METHOD:**

This study was a systematic review of systematic reviews. The following databases were searched: CINAHL, Cochrane Library, DARE, EMBASE, Google Scholar MEDLINE, OTSeeker, PEDro, PsycBITE, PsycINFO, and speechBITE. Two independent reviewers determined whether studies met the inclusion criteria. These were that (1) the study was a systematic review or the next best available; (2) it was a medical/allied health intervention; and (3) that more than 25% of participants were children with CP. Interventions were coded using the Oxford Levels of Evidence; GRADE; Evidence Alert Traffic Light; and the International Classification of Function, Disability and Health.

#### **RESULTS:**

Overall, 166 articles met the inclusion criteria (74% systematic reviews) across 64 discrete interventions seeking 131 outcomes. Of the outcomes assessed, 16% (21 out of 131) were graded 'do it' (green go); 58% (76 out of 131) 'probably do it' (yellow measure); 20% (26 out of 131) 'probably do not do it' (yellow measure); and 6% (8 out of 131) 'do not do it' (red stop). Green interventions included anticonvulsants, bimanual training, botulinum toxin, bisphosphonates, casting, constraint-induced movement therapy, context-focused therapy, diazepam, fitness training, goal-directed training, hip surveillance, home programmes, occupational therapy after botulinum toxin, pressure care, and selective dorsal rhizotomy. Most (70%) evidence for intervention was lower level (yellow) while 6% was ineffective (red).

#### **INTERPRETATION:**

Evidence supports 15 green light interventions. All yellow light interventions should be accompanied by a sensitive outcome measure to monitor progress and red light interventions should be discontinued since alternatives exist.

---

## 8. Effectiveness of pediatric occupational therapy for children with disabilities: Asystematic review

**Autors:** Iona Novak, Ingrid Honan

**Revista:** Australian Occupational Therapy Journal (Vol. 66, Núm. 3)

**Data:** juny 2019

### Abstract

#### **INTRODUCTION:**

Pediatric occupational therapy seeks to improve children's engagement and participation in life roles. A wide variety of intervention approaches exist. Our aim was to summarise the best-available intervention evidence for children with disabilities, to assist families and therapists choose effective care.

#### **METHODS:**

We conducted a systematic review (SR) using the Cochrane methodology, and reported findings according to PRISMA. CINAHL, Cochrane Library, MEDLINE, OTSeeker, PEDro, PsycINFO were searched. Two independent reviewers: (i) determined whether studies met inclusion: SR or randomised controlled trial (RCT); an occupational therapy intervention for children with a disability; (ii) categorised interventions based on name, core components and diagnostic population; (iii) rated quality of evidence and determined the strength of recommendation using GRADE criteria; and (iv) made recommendations using the Evidence Alert Traffic Light System.

#### **RESULTS:**

129 articles met inclusion (n = 75 (58%) SRs; n = 54 (42%) RCTs, measuring the effectiveness of 52 interventions, across 22 diagnoses, enabling analysis of 135 intervention indications. Thirty percent of the indications assessed (n = 40/135) were graded 'do it' (Green Go); 56% (75/135) 'probably do it' (Yellow Measure); 10% (n = 14/135) 'probably don't do it' (Yellow Measure); and 4% (n = 6/135) 'don't do it' (Red Stop). Green lights were: Behavioural Interventions; Bimanual; Coaching; Cognitive Cog-Fun & CAPS; CO-OP; CIMT; CIMT plus Bimanual; Context-Focused; Ditto; Early Intervention (ABA, Developmental Care); Family Centred Care; Feeding interventions; Goal Directed Training; Handwriting Task-Specific Practice; Home Programs; Joint Attention; Mental Health Interventions; occupational therapy after toxin; Kinesiotape; Pain Management; Parent Education; PECS; Positioning; Pressure Care; Social Skills Training; Treadmill Training and Weight Loss 'Mighty Moves'.

#### **CONCLUSION:**

Evidence supports 40 intervention indications, with the greatest number at the activities-level of the International Classification of Function. Yellow light interventions should be accompanied by a sensitive outcome measure to monitor progress and red light interventions could be discontinued because effective alternatives existed.