The effect of warming and or insulation on neuromuscular function in people with hereditary spastic paraparesis

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Keywords: Hereditary spastic paraparesis; Temperature; Function

Introduction.— People with hereditary spastic paraparesis (pwHSP) show changes in neuromuscular function and functional ability in the cold.

Objectives.— This study looked at clinically applicable localised warming (CALW) of the calf in pwHSP (n = 21) and matched controls (n = 17) using a NEO-G calf wrap and warming inserts.

Methods.— People either had:
– 30 min warming followed by 30 min with insulation in situ;
– 30 min warming followed by 30 min without insulation. Condition order was randomised between participants.

Functional, neurophysiological (MVC and passive and stretch-evoked stiffness), popliteal artery blood flow and skin temperature measures were recorded at baseline, 30 min and 60 min.

Results.— In both groups CALW significantly improved walking and toe tap time and increased ultrasound measures of popliteal artery blood flow (flow rate, flow ratio, peak mean velocity, time averaged velocity and cross sectional area), maximal and rate of rise of force and decreased stretch-evoked stiffness. Insulation maintained the increased temperature in the limb and partially maintained the beneficial effects in neuromuscular function and functional ability.

Conclusion.— CALW can have a beneficial effect on measures of neuromuscular function and functional ability in people with HSP and the use of insulation may help to prolong these benefits in cold weather.

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Short-term effects using of two physiotherapeutic methods on the function of the respiratory system and trunk morphology in patients with adolescent idiopathic scoliosis – preliminary study

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Keywords: Idiopathic scoliosis; Manual therapy; Derotational mobilization; Physical exercise; Function of respiratory system; Trunk rotation

Introduction.— The assessment of the influence of short-term, intensive joint physiotherapy (DoboMed and Orthopedic Manual Therapy–OMT) on the function of the respiratory system and trunk morphology in the in-patient group with Adolescent Idiopathic Scoliosis (AIS)

Material and methods.— Forty-two girls with AIS (Cobb angle 15–35).

A randomized, controlled trial with a 3-weeks follow up. Participants were divided into two randomized subgroups - control group DoboMed (n = 21) and experimental group OMT/DoboMed (n = 21). DoboMed and manual therapy were applied in the experimental group only. Derotational stretch mobilization techniques in selected segments of thoracic spine were used as preparation for DoboMed exercises. The spirometry, maximal inspiration and expiratory pressures (MIP, MEP), kyphosis and the angle of trunk rotation (ATR) in thoracic spine were estimated before and after therapy.

Results.— MIP and MEP were increased significantly in both groups (P < 0.01). Significant changes were observed in the experimental group as: increasing of forced expiratory volume in one second (FEV1), (P < 0.05), increasing of thoracic kyphosis (P = 0.01) and decreasing of ATR (P = 0.05).

Conclusion/Discussion.— The magnitude of the difference between the variables tested does not allow to assign a considerable role to OMT in the preparation process for the active 3D DoboMed exercises.

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Vertebral column deformities in obese children in Albania

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Keywords: Obesity; Children; Spinal deformity

Currently, in Albania, obesity prevalence in children and adolescents is over 14%. Also an increasing number of the children are suffering from scoliosis and back pain.

Objectives.— The purpose of this study was to assess the relationship between obesity and spinal deformity and back pain on the children under 14 years old.

Methods.— We followed 134 obese children in an Albanian school from October 2012–July 2013. Incidence of back pain and spinal deformity, and relationship between back pain and sex, back bags and physical exercises were studied.

Results.— The mean age was 10.5 years (10–14). Twenty-six percent of the children suffered from back pain, which was more frequent in female. Twenty percent of the children who carried back bags had back pain. Forty-one percent of the children who usually did physical exercises hadn’t back pain. Twenty percent of children had Cobb angle scoliosis ≤ 20 degrees. Four percent of the children presented Cobb angle curves ≥ 30 degrees.

Conclusion.— Obese children presented a great predisposition for developing disorders of the spine. Physical exercises, appropriate school bags and seats help in preventing disorders of the spine.

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Impact of a cane on walking distance in post-stroke patients

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Keywords: Post-stroke; A cane

Introduction.— To assess the efficiency of repetitive motor learning with a cane in post-stroke patients who complete ten-meter walk test. Research hypothesis: repetitive motor learning of using a cane impact the walking distance of post-stroke patients.

Method and results.— One group, n = 12 (sex ratio = 2). Assessment before and after 15 h of repetitive motor learning on the basis of 5 sessions per week during 3 weeks.

The hypothesis is validated. r Test is significant (P < 0.01).

Discussion.— In view of these results, we think that is necessary to examine other variables such as speed walking or energy expenditure in the same sample.

Further reading


HAS. Accident vasculaire cérébral: méthodes de rééducation de la fonction motrice chez l’adulte – Argumentaire scientifique 2012.

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