

including physiotherapy, occupational therapy and psychomotricity was marked by an improvement of sensitivity, good recovery of balance allowing walking with a simple cane.

Discussion.— The methods of rehabilitation for proprioceptive ataxia have been reported rarely. We describe in this work exteroceptive and proprioceptive sensory stimulation exercises, the work of static balance, the work of dynamic balance, the work of prehension and the interest of lower limb orthoses.

Conclusion.— Rehabilitation of thalamic ataxia requires a multisensorial approach, after which each patient will determine personal sensory preferences that depend on personal achievements and level of disability.

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Effects of a constraint-induced therapy on gait biomechanics parameters in hemiparetic patients after overground or treadmill training

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Keywords: Stroke; Gait; Motion analysis; Constraint induced therapy; Rehabilitation

Gait training following stroke is recognized as effective but independently of the technique used. Studies suggest that constraint of the healthy lower limb could constitute an interesting technique to improve gait of the hemiplegic patients. The objective of this randomized controlled study is to determine the specific contribution of a constraint through a weight worn by the healthy lower limb during a session of walking training overground and on a treadmill in hemiplegic patients.

Patients and method.— Forty-eight stroke patients able to walk without technical assistance for 20 min participated in this study. Patients were evaluated by 3D analysis quantifying the spatial and temporal parameters, kinematics and kinetics before gait training, immediately before and after 20 min of rest.

Results.— The results of the gait analysis show that the weight had no specific effect on the spatiotemporal parameters, joint kinematics or kinetics of the hemiplegic side while there was a significant effect of training condition (overground or treadmill). The propulsion of the hemiplegic side was specifically increased after training on the treadmill. Training overground increased symmetry of the single support phase.

Discussion.— A change in balance management differently overground and on a treadmill, can explain these results. The biomechanical changes persist for at least 20 min after training and may reflect an adaptation of the CNS. These results are interesting from a clinical point of view because these two elements are major objectives of gait rehabilitation in these patients; physiotherapists can propose a specific training for these patients.

Further reading

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Motor under-utilization scale assessing the impact of unilateral spatial neglect on postural functional abilities in hemiparetic individuals

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Keywords: Physiotherapy; ESUM; Hemiplegia; Unilateral neglect; Sit-to-stand task; Risk of falling

Background.— Compensation for their motor disability requires attention from the hemiparetic individuals (Vincent et al., 2009). But, in some hemiparetic subjects, attention disorders such as unilateral neglect disturb rehabilitation and increase the risk of falling (Heilman et al., 1993). However, there is no scale in physiotherapy which assesses the consequences of unilateral neglect on the functional ability to stand up from the sitting position.

Purpose.— Create a motor scale (ESUM) assessing the gap between the postural functional abilities of the hemiparetic individual and his/her real motor activity (real spontaneous motility, risk of falling. . .). The goal of this scale is to evaluate specifically the under utilization of motor abilities created by unilateral neglect. This new scale is compared with standardized motor scales already known such as the Postural Assessment Scale for Stroke Patients (PASS) and the Berg balance scale.

Patients and methods.— Twenty hemiparetic brain-injured subjects, unable to walk alone are tested on two motor standardized motor scales (PASS and Berg) and on our motor under utilization scale (ESUM). In practice, the scale assesses the sit-to-stand task. The evaluator assessed:

- where the patient puts his feet;
- if the patient checks where he puts his feet by sight;
- if there is a support reaction in the hemiparetic lower limb or not (Bobath, 1973).

The obtained results from the three scales were correlated with the results obtained at the GEREN scale assessing unilateral neglect (BEN).

Results.— This new scale (ESUM) was reliable and rapid to administer (two minutes). It enabled evaluation of motor under-utilization of functional abilities in hemiparetic individuals with unilateral neglect. The preliminary results showed a correlation between the quality of the sit-to-stand task (ESUM) and the unilateral neglect (BEN). These results tend to prove the good sensitivity of the task and confirm the need to evaluate more patients.

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Effects of massage of the neck on undisturbed upright stance control in humans

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Keywords: Neck; Balance; Physiotherapy; Massage

Introduction.— The purpose of this study was to evaluate the effects of a session of massage of the neck on balance performance in young and in elderly people.