

**Full-field measurement**

**Objective.**— Efficacy of lumbar belt in the treatment of low back pain has been already proven. Nevertheless, both mechanical and physiological effects remain unclear. A pilot study has been carried out to assess the mechanical effect of lumbar belts.

**Methods.**— Measurement protocol has been developed. It includes morphologic measurements (high, weight, waist and chest size), comfort evaluation of the lumbar belt, when worn, by using a visual analogic scale (VAS) and coupling measurement of both the lumbar belt stress and the interface pressure. This method has been applied on 15 healthy subjects to compare six lumbar belts.

**Results.**— Belts are different in terms of distribution of the lumbar belt stress and the interface pressure. Comfort only depends on the tightening of the belt. Morphology of the subject has no significant effect on results.

**Discussion.**— This is a first study that proves the feasibility of the protocol on a small number of healthy subjects. This protocol is currently realized on thirty low back pain patients.

**Further reading**

Calmels, Queneau, Hamonet, Le Pen, Maurel, Lerouvreur, et al. Effectiveness of a lumbar belt in subacute low back pain: an open, multicentric, and randomized clinical study. *Spine* 2009;34:215–20.

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CO75-005-e

**Prospective multicenter study evaluating the interests of Seat-Braces in gerontology**

T. Lansaman<sup>a,\*</sup>, F. Genet<sup>a</sup>, N. Schwald Adam<sup>b</sup>, P. Dehail<sup>c</sup>, P. Denormandie<sup>a</sup>, A. Schnitzler<sup>a</sup>

<sup>a</sup> CHU Raymond-Poincaré, Garches, France

<sup>b</sup> Groupe Hospitalier, Broca, France

<sup>c</sup> CHU de Bordeaux, Bordeaux, France

\*Corresponding author.



**Keywords:** Wheelchair; Postural disorders; Gerontology

**Background.**— The difficulty sitting seniors are frequent, poorly known and causing potentially serious complications of ulcers. The adjustment of the seat is often the only solution.

**Objectives.**— To evaluate the difficulties the elderly sit and quantify the interest of seats corsets made on molding.

**Method.**— Prospective multicenter descriptive study conducted from an evaluation grid and objectives developed by a multidisciplinary team. Inclusion of older people with postural disorders requiring the completion of a corset custom seat. An evaluation of these disorders and its repercussions is requested at D0, 1 month and 3 months.

**Results.**— Eighty patients were enrolled from March 2011 to November 2013, with a mean age of 83 years ( $\pm 9$  years), GIR 1 in 55.6% of cases. The three main causes of installation problems were distorting the acquired hypertension, tilt the spine and pain. After completion of the corset custom seat found a significant improvement in seat time and patients or family are very satisfied in 64.4% and 74.4%.

**Conclusion.**— This study shows a net profit interest of a better foundation installation of elderly people in institutions, in particular the reduction in the risk of slipping and falling.

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**Orthopedic shoes in chronic post-stroke patients: A retrospective study on satisfaction, compliance, and efficiency**

M. Jaouen<sup>\*</sup>, M. Kerzoncuf, L. Bensoussan, J.M. Viton, A. Delarque

*Pôle de médecine physique et de réadaptation, CHU Timone, Marseille, France*

\*Corresponding author.



Satisfaction; Compliance; Efficiency, Podo-orthosist; Functional ambulation classification

**Background.**— Orthopedic shoes (OS) are prescribed after a stroke without scientific proof.

**Objective.**— To evaluate the satisfaction and compliance to the OS and their efficiency on the capacity of walking.

**Methods.**— Retrospective study evaluating patients with OS made by one podo-orthosist in 2011 and 2012. The evaluation was made by phone call: frequency, time of port, QUEST, walking efficiency self-evaluation, functional ambulation classification (FAC). Some patients had a walking evaluation. Their quantitative walking performances barefoot and with OS were analysed.

**Results.**— Forty were held for the study, 36 could be contacted. 28 wear it daily, 6 occasionally 2 abandoned it. Twenty-two wear it all day long, 12 only outside (2 abandoned it). Satisfaction is good for each QUEST item. Good efficiency is self-reported. The FAC (6.30 vs. 3.6  $P < 0.0001$ ) and quantitative walking capacities (speed 34.6 cm/s vs. 24.9 cm/s  $P 0.005$ , healthy step length 25.8 cm/s vs. 16 cm/s  $P 0.001$ ) are significantly improved.

**Discussion.**— Post-stroke patients are satisfied of their OS, compliance is good, walking capacities are improved by OS.

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CO80-002-e

**Long-term use of orthopedic shoes improved the gait of a Charcot-Marie-Tooth patient**

V. Milhe De Bovis<sup>\*</sup>, L. Bensoussan, M. Kerzoncuf, J.M. Viton, A. Delarque, A. Jouvion, S. AttariaN, L. Thefenne, E. Theodoridou

*CHU La Timone, Marseille, France*

\*Corresponding author.



**Keywords:** Charcot-Marie-Tooth; Orthopedic shoes; Orthopedic shoes; Gait; Gait assessment

**Objectives.**— The aim of this study was to investigate the long-term use of custom-made orthopedic shoes (OS) by a patient with Charcot-Marie-Tooth (CMT) disease after 10 years of follow-up.

**Methods.**— A 66-year-old woman with CMT disease complained mainly of pain and frequent falling. The physical examination showed the presence of steppage. Treatment based on OS was prescribed in 2001. Complete physical examinations and quantified assessments using a GAITRite<sup>®</sup> system were performed in 2001, 2007 and 2011.

**Results.**— The results of a preliminary study conducted in 2001 showed that the falling and pain had disappeared and the spatio-temporal parameters such as the walking speed had increased. After 10 years of follow-up, we observed that the clinical data had stabilized since 2001 and the quantified data had improved up to 2007 and then stabilized between 2007 and 2011.

**Conclusion.**— Bracing with OS is an excellent means of treating gait disabilities in patients with CMT disease.

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**Retrospective multicentric studying about dynamic orthopedic shoe including a pneumatic anti-footdrop device**

Y. Ronzi<sup>\*</sup>, L. Bontoux, C. Chevalier, M. Dinomais, I. Richard

*Department of Physical Medicine and Rehabilitation, CHU d'Angers, Angers, France*

\*Corresponding author.



**Keywords:** Foot drop; Ankle-foot orthosis; Orthopedic shoes; Investigation of satisfaction

**Objective.**— To assess the patient's satisfaction with a dynamic orthopedic shoe including a pneumatic anti-footdrop device (Mecaflex).