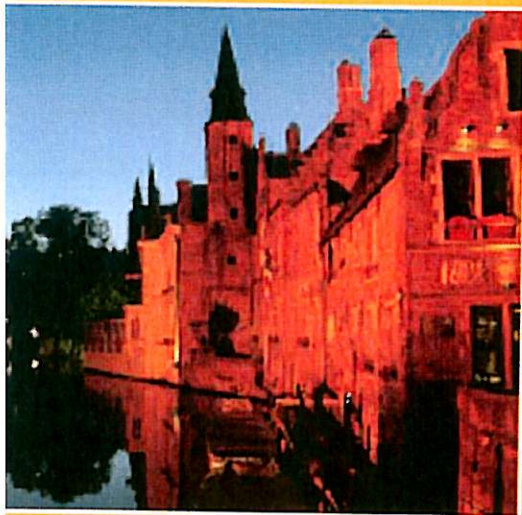


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Table I.—Demographic data and characteristics/outcomes measures.

Demographic data	Total	Male (M)	Female (F)
Mean (SD) age (years)	49.43 (11.21)	50.16 (11.40)	48.71 (11.03)
Sex (male / female) no (%)	84 (100%)	54 (64%)	30 (36%)
Own place (urban / rural) no. patients (%)	19 rural (22%) 65 urban (78%)	10 rural (18.5%) 44 urban (81.5%)	9 rural (30%) 21 urban (70%)
BA severity score -PD Blanc	8.91 (2.16)	8.70 (2.44)	9.12 (1.84)
Onset of BA (mean) (years)	21.3 (8.17)	21.02 (7.81)	21.49 (8.43)
Tobacco (no. patients) (%)	21 (25%) smoker p. + 63 (75%) non smoker p.		
Occupation – no. patients (p)	42 professional p. + 28 pensioner p. + 13 others p.		
BA type no. patients (%)	32 (38%) extrinsic BA p. + 52 (62%) intrinsic BA p.		
Characteristic mean values and (SD)		Baseline (pre PR)	After (post PR)
Body functions structures	FEV1 % predicted	73.27 (1.17)	74.19 (1.7)
	PEF % predicted	67.75 (12.89)	67.77 (12.7)
Activities and participation	6 MWD (m) #. +	434.03* (82.05)	505.57* (83.13)
	Borg scale score #	5.51* (1.37)	3.47* (1.06)
	(well-being) AQLQ score #. +	58.5* (7.37)	64.45* (7.66)

FEV1 = forced expiratory volume in 1 s. (L); PEF = peak expiratory flow (L/min)

* p value < 0.05 (nonparametric test: Kruskal-Wallis test, equivalent to Chi square)

#. + Pearson correlation coefficient (95% confidence interval); # 6MWD was correlated with both Borg scale score ($r=-0.72$; 95% CI=[0.78; -0.65]) and AQLQ ($r=0.57$; 95% CI=[0.40; 0.71]); + severity score and AQLQ are correlated ($r=-0.31$; 95% CI=[-0.42; -0.20]).

MCID = minimal important clinical difference are above for 6 MWD and AQLQ

implemented with relatively low costs when it coupled with medications offers the best therapeutic option for exercise performance.

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PHYSICAL AND REHABILITATION MEDICINE AND SPORT

A new concept of dynamic neuromuscular reprogramming using Huber® device

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Aim

Pathologies like lower limb joint traumatism are frequent in sports activities. Sports activities, alpi-

ne skiing in particular, expose very frequently to anterior cruciate ligament rupture (every year, in France, 1 skier out of 3 will suffer from a knee sprain and around 16 000 will suffer from anterior cruciate ligament rupture). The neuromuscular reprogramming remains the more important phase in the rehabilitation treatment of the knee joint instabilities. The techniques to improve the proprioception did not evolve since the invention of the pulley-therapy and of the Freeman platform. Today, it seems that motor coordination training using a motorized oscillating platform (Huber® device) could represent a real innovation in this domain. The goal of our work is to optimize the neuromuscular reprogramming and to help the return to the socio professional and sports activities.

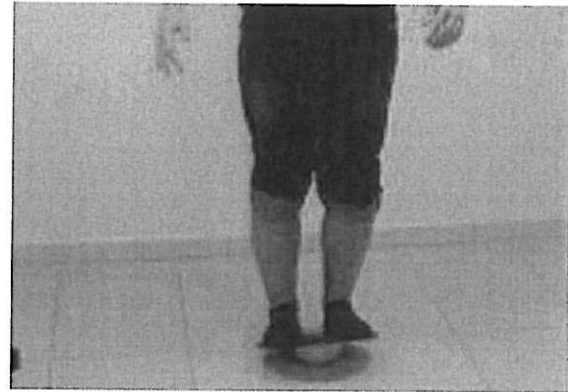


Figure 2. – Neuromuscular reprogramming practiced on Freeman platforms are not adapted.

Figure 1. – Neuromuscular reprogramming practiced on the Huber device.

Methods

The Huber® device, produced and distributed by LPG Systems France, generates a permanent adaptive regulation of the joint protection, while soliciting preferentially the proprioceptive system and improving static postural control.¹ This new procedure also allows the patients to carry out a double task exercise protocol and to solicit the tonic muscles. The patients (men and women, aged between 25 and 50 years old) are divided in 2 groups by randomisation: 21 patients in the treatment group and 21 patients in the control group. Each group undergoes 1H30 hours of rehabilitation a day, 5 days a week, during 10 weeks. The Huber group will undergo 5 rehabilitation sessions with Huber a week (5 x 20 min) instead of the "Proprioceptive" protocol as part of the common rehabilitation program. The investigations will assess: functional response (Lysholm-Tegner scale; IKDC 2000), pain (VAS), imbalance (stabilometry), postoperative knee residual laxity (KT 1000 arthrometer), injured knee oedema/ effusion. An isocytometric evaluation (Biodex) will also be carried out.

Results

All assessments will be carried out in the preoperative and in the 3rd, 6th, 12th, 24th and 52nd postoperative week. During post-surgical rehabilitation of the knee instability, the neuromuscular reprogramming is practiced on the Huber device, starting with the 21st day (Figure 1). This proprioceptive program starts as soon as the patient is able to put again his foot on the ground and continues on a daily basis until the 3rd month. Initially,

the plateau oscillates slowly and with low amplitude and the exercises are not difficult. The exercises are first done in bipodal position and afterwards in unipodal position. Then, there is a progressive increase of the parameters (speed and amplitude) in order to attain a maximum level towards the end of the rehabilitation programme. At this stage, the rotator stabilizing mechanisms are solicited, as well as the patient's knee joints.

Conclusion

The Freeman platforms, extensively used for the knee joint traumatism, produce motor programs that are not adapted because based mainly on the visual and vestibular system (Figure 2).² On the other side, the rehabilitation programme using stable platforms seems to solicit mainly the somesthetics afferents inputs.³ This type of rehabilitation programme is more effective but more limited and more separated from physiology. In fact, all the traditional techniques have the inconvenience to realize an isometric workout at the knee level. The hypothesis of this trial assesses the possibility of a functional improvement of the knee, after the training of coordination, proprioceptivity and joint stabilisation mechanisms with the HUBER device, by an active anticipation of reflex activities in a complex environment (platform imbalance and the visual feed-back produce a double task condition). The neuromuscular reprogramming is the principal goal in the rehabilitation treatment of the joint instabilities. It must be progressive and the more possible, physiological. The dynamic, double task exercise protocol is essential but necessitates the

lack of the vestibular system inference. We think that the Huber device is more adapted to the mechanisms of articular stabilities. This device represents at last a real evolution since the works of Freemann.

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Ionthoforesis and ultrasound with Ketoprofen in the treatment of epicondylitis*

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Aim

Pain disorders in elbow region is often a reason of the movement constraint. The enthesopathy is one of the most common reasons of this disorder. In this paper we focused on two similar enthesopathies – the affection of the epicondylus lateralis and medialis humeri.¹⁻⁴ The physical examination and the interview with the verbal scale of pain were used to assess the effectiveness of the therapy.

Methods

The persons who reported pain in the elbow region were interviewed and examined and the diagnosis of epicondylopathy was given. The other possible reasons of pain in this region were eliminated. Twenty patients diagnosed with epicondylopathy were treated with ultrasound with ketoprofen and twenty were treated with ionthoforesis with ketoprofen. The effects of the therapy were compared between two therapeutical groups of patients. Each of the series consisted of ten treatments.

Results

The physical examination and the interview with the verbal scale of pain were used to assess the

effectiveness of the therapy. The data of the clinical examination (objective assessment) and the interview (subjective assessment) were collected separately. We show this data in the Table I and Table II. We show these effects separately regarding the subjective and objective symptoms. For the verification of the therapeutical effectiveness of therapy in the treatment of epicondylitis we used the exact Fisher's test. Ultrasound (US) with ketoprofen and ionthoforesis with ketoprofen show therapeutical effectiveness in therapy of enthesopathy of lateral and medial epicondylus. There was a statistically significant effect between the group treated with ultrasound (US) with ketoprofen and ionthoforesis with ketoprofen.

Conclusion

1) Ultrasound (US) with ketoprofen and ionthoforesis with ketoprofen show therapeutical effectiveness in therapy of enthesopathy of lateral and medial epicondylus. 2) The effectiveness of ultrasound (US) with ketoprofen was higher. This could be statistically proved. 3) The study should be continued with larger groups of patients.

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The relationship between self-esteem and physical fitness among students of Tabriz University

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Aim

Positive self esteems considered an important outcome in multiple domains, such as academics, sport, and psychotherapeutic settings. Self-esteem is further recognized for its positive influence on a