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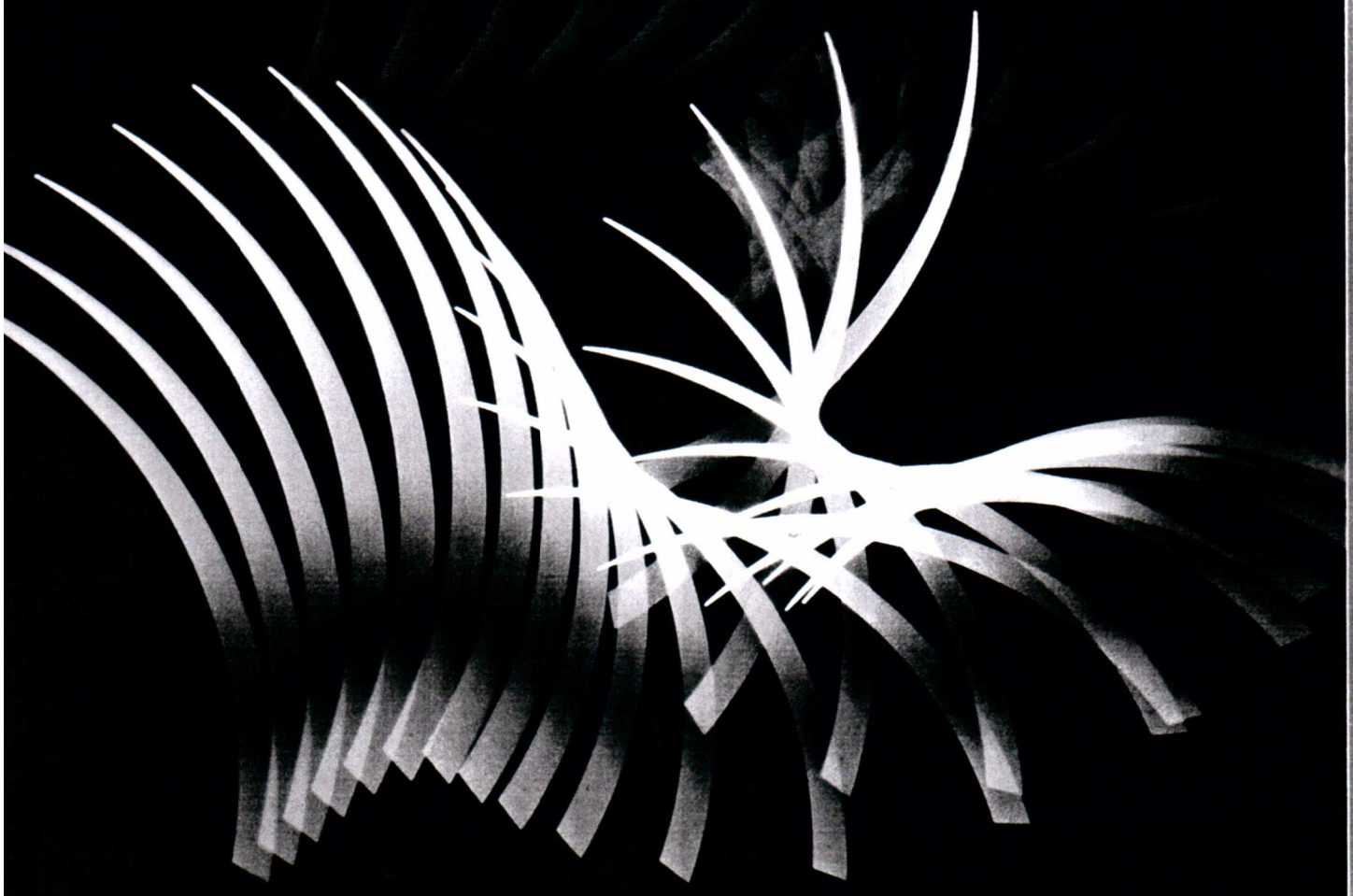

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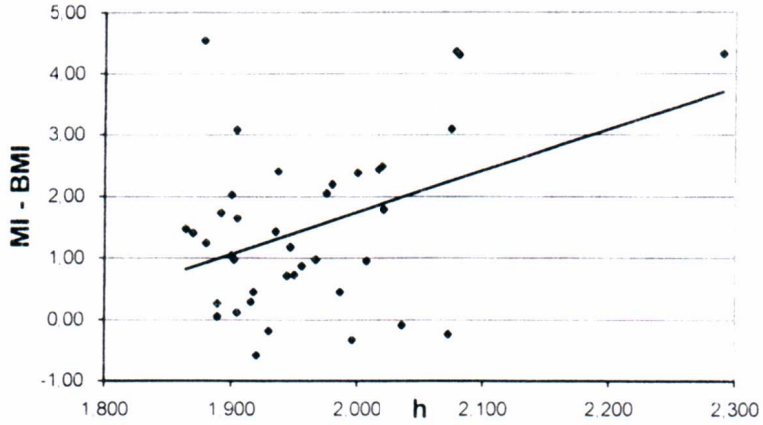

Fig. 1. Tall athletes: The MI substantially increases with increasing body height h when compared to the BMI.

The mean *BMI* of the RG was 26.37 kg/m^2 (SD 3.60), the mean *MI* was 26.80 kg/m^2 (SD 3.73). The TA grou had a mean *BMI* of 24.33 kg/m^2 (SD 3.06) and a mean *MI* of 25.82 (SD 3.45).

When the *MI* was used instead of the *BMI* in the RG the value of the relative body weight changed with a mea difference of +0.43. The mean difference in the TA group was +1.49 (Fig. 1).

Discussion and Conclusion: The slightly increased value of the RG (+0.43) is due to a lower mean s/h ratio in th investigated group (0.525 vs. 0.53 which was used for the definition of the *MI*). The higher increase in the TA grou mirrors the pronounced effect of individual leg length on relative body weight. The *MI* considers the individual le length which the BMI does not. The WHO is aware of the problems resulting from this inadequacy of the BM when applied to small or tall persons or to different ethnic groups: *"Care should therefore be taken in groups an individuals with unusual leg length to avoid classifying them inappropriately as thin or overweight"* [5].

References

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Vibration Training in Health and Disease

Influence of the grade of knee flexion on mechanical and electromyographical impact during whole body vibration exercise

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Introduction: The magnitude of acceleration produced by Whole Body Vibration Exercise (WBV) with small vertical oscillations could be osteogenic but one of the most used WBV device by clinics produces oscillations by means of the rocking of a platform on an axle, pointing out a foot of each side of the axle (WBVa). The body posture is a major determinant of the mechanical impact transmitted from vibrating platform throughout body. The purpose was to compare the received three-dimensional acceleration in the lumbar zone and the electric activation of the muscles selected during a WBVa in three 3 different angles of flexion of the knees.

Methods: Thirty women (mean age 22, SD 2) performed 3 repetitions of WBVa (Galileo 900, Novotec, Germany) at 25 Hz and 4 mm of amplitude oscillatory during 30 seconds within 5 minutes of rest between them. The repetitions were performed with 15, 45 and 90° of flexion of knees. The acceleration was recorded by a tri-axial accelerometer (Biopac, USA) attached on the skin at L3 level and the EMG was registered by surface active electrodes (Biopac, USA) on the extensors and flexors of knee and low-trunk. The EMG recorded was expressed as the percentage of these obtained during maximal isometric knee flexo-extension at 45° (Biodex, USA) and trunk flexo-extension during Ito-Shirado Test. It was proceeded the analysis of the variance for repeated measures.

Results: The median of lateral acceleration was 3 times superior ($p < 0.001$) to the vertical line one in the 3 angles of measured flexion, and the vertical line was the double ($p < 0.001$) of the anterior-posterior line. The maximum accelerations: lateral (11–13 g) and vertical line (6–7 g) had increased when reducing the angles of flexion of the knees, such as the median of the accelerations at the lumbar level. The muscles of the trunk had been stimulated 60–70% and the Internal Vast muscle increases significantly its electric activity as knee flexion increased.

Discussion: Both, lateral and vertical accelerations were clearly superior to the osteogenic threshold previously described by Rubin et al. [1].

Conclusion: The machine used in WBVa transmitted higher mechanical lateral impacts than vertical ones. However, an osteogenic stimulus could be expected in both axes. The machine was especially useful to stimulate internal vastus and low back muscles.

Reference

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Injuries: Management and Prevention

Rehabilitation of trauma victims in Greece

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Introduction: Rehabilitation of trauma is a long standing problem and costs more than any other health problem in Greece. The national health system in Greece does not serve rehabilitation needs in special institutes, but these patients are treated for long in General Hospitals, as patients with hernias and cholelithiasis.

Methods: This non systematic review describes the matter of trauma rehabilitation in Greece. Information was taken from the Ministry of Health, the Public Health School, the National School of Public Services Management and Hellenic medical bibliography.

Results: Except from KAT Hospital in Athens, public hospitals are still the *expensive solution* for rehabilitation in Greece. Interestingly, private rehabilitation institutes have recently appeared and offer rehabilitation services.