

Evolution of the strength and coordination according to age: Study with a new technique of evaluation and training

Dr Ferret (Centre de Médecine du Sport, Lyon)

Abstract: Aging concerns all individual, from professional sportsmen to sedentary. Athlete can be used as an example for « accelerated locomotor aging ». Sportsmen suffer premature deteriorations due to extensive use of locomotor apparatus: deterioration of posture and coordination, articular micro-lesions, connective tissue fibrosis, aponeurosis and deficit of muscular chains. In sedentary, the marked consequences, such as mobility loss, postural troubles, impairments of movement fluidity and gesture precision, compromise global body harmony. Aging is accompanied by decrease of muscles force and decrease of coordination, parameters difficult to evaluate. HUBER[®] System is endowed with an oscillating plate which induces a 3D movement of all articulations. This new device is also equipped with strength captors on handles which translate, on a screen, the global activity of muscular chains. This visual feed-back is interactive and allows constant adjustment of the developed effort. During exercises, HUBER[®] records variations of this effort and coordination performance. A study carried out on 90 healthy subjects allows to measure, according to age, sex and physical activity, strength and coordination of muscular chains before and after 5 weeks training on HUBER[®]. Results showed a decrease of strength with age and particularly a deterioration of coordination. They outline the interest of HUBER[®] to prevent such deteriorations and to maintain equilibrium necessary for senior's quality of life.