

Congress Lecture

Functional adaptation of skeletal muscle in elderly – Prevention towards injury and role in treatment

M. Kjær

Institute of Sports Medicine, Copenhagen University Hospital at Bispebjerg, DK-2400 Copenhagen NV, Denmark
E-mail: m.kjaer@mfi.ku.dk

Ageing is associated with loss of skeletal muscle as well as with a decrease in functional performance. Studies have shown that physical training of resistive nature can counteract this muscle loss, and that ageing skeletal musculature can increase both mass and strength surprisingly well. Protein synthesis is stimulated, and muscle hypertrophy is associated with optimally timed nutritional intake of protein. This beneficial effect of training goes not only for healthy elderly individuals, but also for frail elderly, and old individuals with co-morbidities. Despite quite impaired daily function associated with chronic diseases (e.g. lung or heart diseases), skeletal muscle strengthening will improve function, and risk factors associated with falls and fracture. Even in elderly patients undergoing surgery, improved muscle strength – both maximally and ability to develop force fast – can be shown and this is associated with improved recovery after operation.