

## “Wake-up time activation” in older adults: first randomized experimental clinical trial

Gabriella Cusella<sup>1</sup>, Riccardo Ansaldi<sup>3</sup>, Federico Combi<sup>4</sup>, Francesca Mazzola<sup>4</sup>, Marta Viani<sup>5</sup>, Cristina Montomoli<sup>6</sup>, Paola Borrelli<sup>6</sup>, Lorenzo Spairani<sup>1-2</sup>

<sup>1</sup> Dept. Exp. Medicine, Human Anatomy Unit

<sup>2</sup> CRIAMS; <sup>3</sup> Physiotherapist/OMT, Boves (CN)

<sup>4</sup> degree course of Physical Education

<sup>5</sup> C.S.R.C.M.H.P.

<sup>6</sup> Epidemiology and medical statistics unit; University of Pavia, Italy

Balance mainly relies on vestibular, proprioceptive and visual apparatus integrity. In elderly, postural control fails also due to deficit of sensory functions, atrophy of the musculoskeletal system and neuronal reduction. Deterioration of these functions finally leads to abnormality in performing voluntary muscle movements, subjective feeling of vulnerability, insecurity and depression. Besides, physical inactivity (hypokinesia) is a major risk factor for developing coronary artery disease and stroke, contributing to obesity, high blood pressure, hypercholesterolemia and diabetes. For these reasons, especially in elderly, it is important to include physical activity as part of a regular routine.

Aim of this randomized controlled trial was to demonstrate that daily administration of “Wake-up Time Activation” protocol allows individual recovery of balance and tensile properties of periarticular and intra-articular structures, so preventing morning stiffness and reduction of the Range Of Motion (R.O.M.), mainly in the Vertebral Column.

Therefore, we propose to 50 Healthy individuals (age 45-86) of both sexes a peculiar sequence of movements that allow individual recovery of balance and tensile properties of periarticular and intra-articular structures, so preventing morning stiffness and reduction of the Range Of Motion (R.O.M.), mainly in the Vertebral Column.

To verify the effectiveness of these exercises, we scientifically detected, by means of validated tests and instruments, different parameters at different times, for each individual, for two months.

Tests were detected at T0 (before starting daily exercises), T1 (after one month of daily exercises), T2 (at the end of the second month of exercises).

At each time, on every person, we performed: Cervical Test, Spinal motility, Pelvic motility (mobility); Standing one leg Test (balance); Get up and Go (reactivity); SF-36 (mood/depression); Pain Rating Scales (joint pain).

Statistical analysis of obtained results, discussed in detail in the Postscript, scientifically demonstrates that performing of “Wake-up Time Activation” protocol of adapted physical activity leads to immediate and persistent back pain reduction, articular R.O.M. increase, recovery of balance and coordination, improved autonomy and mood, also in elderly.

Keywords: adapted physical activity, personal autonomy, elderly.