

### **P3 Diaphragmatic Breathing Technique an Example of Motor Literacy for Health in Elderly with Isolated Systolic Hypertension**

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#### **Introduction**

Motor literacy is the acquired repertoire of movement techniques, like breathing techniques, which are assumed to be a complementary non-clinical instrument for health, e.g., slowing breathing frequency enhances respiratory sinus arrhythmia.

#### **Objective**

To verify the effect of learned diaphragmatic breathing on cardiac autonomic function in elderly with Mild to Moderate Isolated Systolic Hypertension (MMS).

#### **Methods**

Vital signs were collected in 22 elderly ( $76.36 \pm 7.93$  years old, 13 women); 13 with optimal to Normal High Blood Pressure (ONH group) and 9 with MMS, in the supine position, during 6 min in each of two conditions: i) Baseline (B)- normal pace breath; ii) Diaphragmatic (D)- slow pace learned breath. Interval RR was collected through Polar V800, and gHRV software was used for Heart Rate Variability (HRV) analysis.

#### **Results**

For all sample, during D, RF and Heart Rate significantly reduced; and, SpO<sub>2</sub>, High Frequency (HF) and Heart Rate Variability Index significantly augmented. In D, both groups significantly augmented SpO<sub>2</sub>. Additionally, in B, MMS group had significantly less SpO<sub>2</sub> than ONH group; but, in D no significant difference was found between groups. Similarly, in B, MMS group had significantly higher Diastolic Pressure (DP), but in D no significant difference was found between groups. Also, compared to B, in D MMS group significantly reduced Systolic Pressure (SP), DP and Pulse (difference between SP and DP).

#### **Conclusions**

During the D, MMS subjects benefited of better blood pressure and peripheral oxygenation conditions, with probable enhancement of HRV. Results of this study support the hypothesis that an easily learned diaphragmatic breathing technique, inexpensive and non-intrusive, can help elderly with isolated systolic hypertension, to remediate its effects on vital signs. Ancient traditional breathing techniques should be considered as a non-clinical complementary health treatment for elderly with MMS.