

## Online supplement

a) **STRETCH, PREPARATION AND RELAXATION:** The subjects were instructed to close the eyes and perform breathe-in slowly and breathe-out slowly with a pursed lip for 5 minutes; Then, they perform the active cervical stretch to the right and left side, counting approximately 20 seconds each side; In sequence they realized an active stretching of the upper and lower limbs, for 20 seconds each, and finally relaxed the muscles of cervical and accessory of respiration perform a slow circular head movements, 20 times to the left and 20 times to the right. This was the first step of the protocol and was repeated at the end of every workout.

b) **BREATHING EXERCISES:** keeping the same breathing pattern and in the sitting position, they were instructed to open the arms during breathe-in and to close the arms during breathe-out for 20 times; in sequence with the arms in wings position, breathe-in and breathe out doing a circular movement, like flapping wings, during all the expiration. These exercises were repeated 20 times; still sitting, they performed a breathe-in and breathe-out turning the head slowly to the left and the right side for 20 times. Standing now, with the arms ahead, they performed breathe-in and breathe out slowly, turning to the left and to the right side for 20 times.

c) **EXERCISES FOR THE UPPER LIMBS:** sitting in a chair, they performed a breathe-in standing and raising the arms, and breathe-out slowly, returning to the sitting position and lowering the arms for 20 times; still sitting, during the breathe-in they raised the arms diagonally, and breathe-out lowering the arms in the same direction for 20 times each arm. In sequence, they were instructed

to perform the same exercise, but now, raising and lowering the arms in the vertical direction, 20 times each arm.

d) EXERCISES FOR LOWER LIMBS: standing, supported by a chair, they were asked to flex the knee at waist height, 20 times each leg; still standing, but now, with the chair ahead and the feet fixed to the floor, lowering during breathe-out and returning to the initial position; and last exercise is a step training, and the subject was instructed to step up and down one step as fast as possible during one minute.

In addition were realized three meetings with the subjects and their families to give information about COPD and symptoms control. Other two meetings were realized to teach the subjects to adapt their house and how to use technics of energy conservation. During and after all exercises subjects were asked about their breathlessness using a 10-point Borg scale. When the subject reported dyspnea greater than 6, the exercise was stopped, and continued after a rest period, controlled by the subject.