



January 5, 1995

ROM - The Time Machine  
15000 Calvert Street  
Van Nuys, CA 91411

At long last we have compiled the results and written the final paper for the ROM study that was just concluded. The outcomes are really quite impressive, especially considering the study groups worked out for only four or eight minutes a day for just eight weeks.

The ROM study paper is attached but we would like to make the following observations after analyzing and reviewing the final statistics:

1). The increases in VO2 Max Values of 6% using the ROM machines 4 minutes a day are similar to increases in VO2 Max Values achieved doing aerobic exercises or using aerobic exercise machines that typically take 20-45 minutes a day, three to five days a week.

2). The average weight of the study subjects was 140 pounds and their average age was 21 years old. Even though these subjects were untrained, they were, by virtue of their age and lifestyles, in reasonably good physical condition. You have explained that your target end user is over 35 years of age. It is safe to say that if the ROM machines were used by subjects in average condition, over 35 years of age, the gains in VO2 Max Values, Strength, and Fat Loss would be significantly greater than the study group.

3). There was a trend for an improvement in body composition. Percent Body Fat was lower and Fat Free Weight was higher, despite no changes in body weight. We believe that if subjects had continued to workout on the ROM machines for approximately six months, as compared to two, they would have significantly altered their body composition.

Based upon the results of our study, we conclude that untrained subjects can improve their cardiorespiratory fitness levels (VO2 MAX) by training as little as four minutes/day, five days a week, over a two month period. Obviously, we would expect greater improvements if subjects would train for a longer duration (several months). We feel that the ROM is an excellent mode of training, affecting both upper and lower body, and we would strongly recommend this device for exercise for any individual.

Sincerely,

A handwritten signature in cursive script that reads "Bob Girandola".

Bob Girandola  
Interim Chairman



A ROM study was conducted at the department above from October 1 to December 15, 1994. In the study there were student volunteers exercising on the ROM, according to specified direction, for a period of two months. A total of 18 subjects completed the training program. Of this group, ten trained for a total of FOUR minutes/day for 5 days/week. The remaining eight subjects trained for EIGHT minutes/day for 5 days/week. The average total number of days of training per subject was 38. In addition to these two experimental groups there was also a control group of six subjects who basically did no exercise during the study period. All subjects who volunteered for the study were untrained and not engaged in any other exercise program. Prior to beginning the ROM exercise program each subject was tested for the following measures:

- 1) Body weight,
- 2) Body composition (percentage fat and fat-free body weight),
- 3) Maximal oxygen consumption or aerobic capacity ( $V_{O_2}$  Max) using the open ended-method treadmill test, collecting expired air and analyzing for oxygen and carbon dioxide. This measure is considered the most accurate estimate of cardiorespiratory endurance capacity,
- 4) Maximal concentric strength for the upper right leg.

After the pre-testing was administered to the subjects they were familiarized with the ROM and assigned to either the 4MIN or 8MIN group. The 4MIN group was required to exercise for 4 minutes/day, 5 days/week. They alternated upper body and lower body workouts every other day. The 8MIN group did both the upper and the lower body workouts, 4 minutes each, 5 days/week. Resistance on the ROM was set for each subject based upon their body weight, at the lowest (easiest) resistance level. After subjects completed half the study (20 workouts) the resistance was increased from level 1 to level 5 (of 20 levels of resistance). Otherwise, the exercise was consistent for the entire 8.5 weeks of the study.

At the end of the training program (8.5 weeks) subjects were retested using the same criteria and methodology used prior to the study. The results of the testing appear in Tables 1, 2, and 3 on the reverse of this page. As expected, the control group (Table 1) who did no exercise, experienced no change in any of the tests. The most striking result of the 4MIN group test results was that there was a statistically significant ( $P < .05$ ) **increase in  $V_{O_2}$  Max (aerobic power) of almost 6 per cent.** Even more striking was the fact that in the **4MIN group, 9 of the 10 subjects increased their  $V_{O_2}$  Max value,** and of the total subjects in both groups, **15 of the 18 subjects increased their  $V_{O_2}$  Max value.** In summation, there indeed was a **POSITIVE TRAINING EFFECT IN TERMS OF AEROBIC CAPACITY.**

Also of interest is the fact that in the ROM 8MIN group there was a trend for an improvement in body composition. **Percent Body Fat was lower by an average of 5 1/2 percent and Fat Free Weight was higher. This translates to an average of 2 1/4 pounds of Reduced Body Fat per subject.**