

**1. How can you lose more calories from only 4 minutes on the ROM than from an hour on a treadmill when almost all people, including most "experts", believe that it requires long duration exercise to burn lots of calories?**

ROM= Rowing Machine

**TWO METHODS OF METABOLIZING CALORIES**

There are two distinct methods to increase calorie consumption through exercise. The one method that is known by most people is to engage in long duration repetitive motion work. The other method is to increase muscle metabolism. A pound of muscle can metabolize an average of about 55 calories per 24 hours but it will not do that unless stimulated to do so. The muscles can be stimulated to metabolize by stretching them under resistance. The larger the range of motion of the exercise, the larger the amount of muscle cells stimulated. That is exactly what happens during Yoga or Pilates exercise, stretching under resistance through long ranges of motion. People who practice yoga on a regular basis will always be lean. If you find a fat person who professes to do yoga on a regular basis, you found a liar who is talking yoga and who does not practice it. Most yoga practitioners are also vegetarians, but that is not the reason why they are lean. There are many fat vegetarians, but those fat vegetarians do not practice yoga. Practicing yoga or Pilates requires many hours per week and therefore it is as impractical for the average public as 30 to 90 minute exercise routines. The ROM is the 4 minute solution to stretch all your muscles through long ranges of motion and in addition it increases muscle strength and it yields significant cardio benefits. Below is a comparison of calories burned during and after exercise from a 60 minute treadmill workout and from a 4 minute ROM workout:

**BURNING CALORIES ON A TREADMILL**

1. A 180 pound person burns about 415 calories during a typical treadmill workout of 60 minutes. They burn 350 calories during the 60 minutes on the treadmill (walking at 3 to 4 miles per hour). During the treadmill workout you use 25% of the body's muscles and you use them through only

15% of their range of motion. This means that only 15% of 25% or only 3.75% of the body's muscle cells are stretched and stimulated during the exercise. These 3.75% of muscle cells that have been stimulated during a treadmill workout provide for an additional 25 calories of metabolism during the 2 hours immediately after the treadmill workout and another 40 calories for the remainder of a 24 hour period. Total calories from 60 minutes walking on a treadmill then are 350 plus 25 plus 40 calories for a total of 415 calories burned as a result of 60 minutes of walking on a treadmill.

#### BURNING CALORIES WITH THE ROM

2. The same 180 pound person will burn 465 calories as a result of 4 minutes on the ROM machine. How is it possible that more calories are burned as a result of 4 minutes on the ROM than from 60 minutes on a treadmill? During the 4 minutes on the ROM you use 55% of your muscles and you use them through an average of 80% of their range of motion (ROM stands for Range of Motion). The total percentage of muscle cells involved in the ROM exercise are 12 times as many as the 3.75% used on a treadmill because 80% of 55% of your muscles is 44% of all your muscle cells that are stimulated to an increased metabolism. During the 4 minute ROM workout the 180 pound person burns only 40 calories. But those 44% of the body's muscle cells that have been stimulated to increased metabolism will burn another 150 calories in the 2 hours after the 4 minute ROM exercise and they will burn another 275 calories in the remaining time of a 24 hour period.

#### MORE TOTAL METABOLISM FROM THE ROM

Note: Because of the long duration 60 minutes on a treadmill those 3.75% of muscles are stimulated to about their maximum capacity to metabolize. During the much shorter 4 minute ROM workout the 44% of muscle cells that are stimulated to a higher metabolism are stimulated to only about 50% to 75% of their maximum ability to metabolize. But since about 12 times as many muscle cells are stimulated on the ROM, the total calories burned from the 4 minute ROM exercise is higher than from an average 60 minute treadmill workout.

