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The 4 Minute and 7 Minute Workout: Too good to be true?

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Could it really be true that we now only have to exercise for 7 minutes or even 4 minutes to get the same benefit as slogging it out at the gym or in our step aerobics class? The answer is Yes and No.

First, the yes. Studies have shown that doing short bursts of intense workout can give the same *cardiovascular and metabolic* benefits as doing less intense exercise for longer duration. Doing these intense exercise bursts can improve heart conditioning and also improve insulin sensitivity, one of the main culprits in type II diabetes. A recent study found that overweight, sedentary but healthy middle aged men improved their blood pressure and blood sugar profiles after doing a 4 minute intense workout (with 3 minute cool down) three times per week compared to those doing a longer workout. The workout included running on a treadmill at 90% of maximal heart rate. Maximal heart rate is calculated at 210- age. For someone who is 40 years old, 90% maximal heart rate is 153 beat per minute (210-40=170 x 0.9= 153). The creators of the exercise suggest that this is "only being able to use single words during exercise." The workout did not show any weight loss benefits. While the researchers testing the protocol used running on a treadmill, this could be translated to bicycling, swimming or other aerobic exercise as long as the intensity can be raised to 90% of maximal heart rate.

The 7 minute workout presented in the American College of Sports Medicine's Health & Fitness Journal shows that results equivalent to longer weight training and aerobic exercise can be achieved using a high-intensity circuit training (HICT) that depends on just body weight and props such as a chair or a wall. It includes a set of 12 exercises that alternate use of large muscle groups to allow proper recovery for each group while continuing to working on a different group. The high intensity is just that – doing 30 second intense intervals with 10 second rest periods, at 8/10 scale of discomfort. HICT has the potential to be beneficial in decreasing body fat, increasing aerobic endurance, and muscle mass. The circuit can be repeated two to three times. HICT addresses time constraints of busy individuals to deliver numerous benefits in much less time than traditional exercise programs. (See links below for articles that show the workouts.)

Sounds great? What's the downside? First, the workouts have been shown to improve blood pressure, blood sugar and muscle capacity. However, they have not been shown to reduce weight. That comes with burning more calories with longer exercise and also diet control. That being said, including some interval training with current exercise routines

should be able to help ramp up the impact of the exercise. Instead of jogging for one-half hour, one could consider doing 5 minute warm-up, 10 one minute sprints followed by ninety-second slow walk/jog for the same total time but improved cardiovascular effort. Or substitute three cycles of the 7 minute workout protocol (with a 5 minute rest in between). See the illustrations of the exercises at NYT Health/Science or ACSM's Health and Fitness Journal.

Any other caution? These exercise protocols are INTENSE and are not appropriate for someone with medical conditions. Individuals should be able to safely perform all of the exercise positions without high risk of injury secondary to poor positioning. The long term goal of the individual is also something to consider. These high intensity workouts necessarily have discomfort as part of the workout, which may be off-putting and take away the desire to work out. The more important goal is to build in exercise for long term health and wellbeing. It is proven that people exercise because they enjoy it and the positive effects. It may be difficult to maintain these workouts that are at best considered "uncomfortable".

While these 2 new theories of intense workouts may be beneficial for some, it is proven that doing any type of exercise, at a moderate intensity level, is a wonderful way to begin your journey to better health. To combat the need for time to exercise as the excuse, walk your dog, park far away from work and walk, and take the stairs instead of the escalator. "Any type of progressive strength- training, regardless of movement speed, will elicit gains in muscle hypertrophy with concurrent enhancements in strength and power." (Mannie)

There are several considerations with starting HICT. First, it is important to receive prior medical clearance prior to beginning any exercise program to ensure safety, especially for those who do not already have some experience with exercise. HICT requires an increased demand and *caution is advised for those who are "overweight, obese, detrained, previously injured, elderly, or for individuals with co morbidities."* The 7 and 4 minute workout are also not suited for people with hypertension and heart disease. Even in a very healthy individual, intensities and positions of exercise may need to be modified at the start.

Second, proper form and technique of exercises is more important than speed to decrease the potential of injury, and increase the maximum benefits. Several studies have shown that controlled movement speed allows the muscles to properly perform the work, reduces the probability of an injury of the muscle, maintains more muscle tensions, and produces more force output in comparison to short, heavy, and quick movements (Mannie).

Lastly, although HICT may be beneficial in overall health, it does not address specific endurance, strength, or power. Specific performance goals need a specific training regimen.

Take Home Points:

- High Intensity Circuit Training and high intensity exercise are effective at getting in shape in short time periods. They have health benefits, such as lowering blood pressure and blood sugar.
- Adding intense exercise intervals to an existing exercise program may be one way to get more "bang for the buck".
- Doing high intensity exercise circuit can put someone at risk for injuries, particularly if they are not already exercising or have medical conditions. They should get medical clearance from their physician.
- For weight loss, short interval programs will not be effective enough alone.

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Resources:

Mannie, Ken. Power Points in High Intensity Training. *Coach & athletic director*. Jan 2001. Vol 70 Issue 6.p6.3p

Klika, Brett. Jordan, Chris. High-intensity circuit training using body weight: Maximum Results with Minimal Investment. *American College of Sports Medicine. Health & Fitness Journa*l. Vol 17/ NO.3. Copyright 2013

Pedro E. Alcaraz, et al. Similarity in adaptions to high-resistance circuit vs. Traditional strength training in resistance-trained men. *Journal of Strength and Conditioning* Research. Vol 25, Num. 9 / Sept 2011.

Tjønna AE, Leinan IM, Bartnes AT, Jenssen BM, Gibala MJ, Winett RA, Wisløff U. Low- and high-volume of intensive endurance training significantly improves maximal oxygen uptake after 10-weeks of training in healthy men. *PLoS One*. 2013 May 29;8(5):e65382

"The Advanced 7-Minute Workout." Well. The Advanced 7-Minute Workout Comments. 24 Oct. 2014. Web. 26 May 2015. http://well.blogs.nytimes.com/2014/10/24/the-advanced-7-minute-workout/?emc=eta1&_r=0

Apps:

The Seven Minute Workout App by Perigee. Available for free on iTunes: https://itunes.apple.com/us/app/7-minute-workout-seven-high/id650276551?mt=8

“The Scientific Seven Minute Workout” by Gretchen Reynolds on the New York Times Well Blog: http://well.blogs.nytimes.com/projects/workouts/