

High-Intensity Interval Training: Efficient, Effective, and a Fun Way to Exercise

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Despite the well-known benefits of physical activity, maintaining a consistent exercise regimen is challenging for many people. For some individuals, it is an issue of finding enough time in an already overloaded schedule to fit in the recommended 30 to 60 minutes of activity 3 to 5 times per week. For others, the perceived drudgery and boredom of consistently plodding through moderate-intensity aerobic exercise take its toll. Thus, few people are consistently achieving the recommended weekly 150 minutes or more of moderate-intensity exercise.

Although moderate-intensity aerobic exercise historically has been the primary recommendation for most people, the U.S. physical activity guidelines also provide the option of doing 75 minutes a week of vigorous-intensity exercise or a combination of both. However, many individuals and exercise professionals shy away from the vigorous activity recommendation because of a perceived higher risk of musculoskeletal injury and cardiac events.

HIGH-INTENSITY INTERVAL TRAINING

Differing from moderate-intensity aerobic exercise, high-intensity interval training (HIIT) consists of alternating short periods of intense exercise with recovery periods of passive or mild-intensity movement. Typically, the work intervals last from 15 seconds to 4 minutes and approach 80% to 95% of an individual's maximum heart rate. Recovery intervals are generally equal to or slightly longer than the intense work interval and consist of passive rest or mild activity at 40% to 50% of the maximum heart rate. The combined work/rest interval commonly is repeated 6 to 10 times. Thus, the total HIIT exercise time ranges from 10 to 40 or more minutes depending on the actual duration of the work and rest periods.

HIIT has long been an important training strategy for competitive athletes and is very effective at stimulating physiologic adaptations that lead to improved performance. Although the risk of musculoskeletal injury and cardiac events is increased with higher intensity exercise, HIIT undertaken as an athletic training component has been historically associated with minimal risk. Although further research is needed, recent research studies using subjects with a variety of health conditions and older adults suggest similarly low cardiovascular event rates, consistent with the more commonly used moderate-intensity aerobic training method. While researchers continue to evaluate the safety of HIIT, it seems that HIIT can be safely

undertaken by people with various health challenges with appropriate guidance and supervision.

BENEFITS OF HIIT

Research data suggest that the accumulated time spent at higher intensity exercise determines the physiologic benefits. Thus, alternating high- with lower intensity intervals allows an individual to spend a longer duration at an elevated intensity than can be accomplished with continuous exercise. Benefits of HIIT include:

- improved aerobic and anaerobic fitness
- improved insulin sensitivity, glucose tolerance, and lipid profiles
- reduced arterial stiffness and improved blood pressure
- increased skeletal muscle fat oxidation
- increased postexercise metabolism
- enhanced weight loss
- reduced abdominal and subcutaneous fat
- increased exercise adherence

GETTING STARTED

Older adults, people with one or more chronic health conditions, and those who have been physically inactive should check with their health care provider before participating in HIIT. The first step in getting started is to choose an exercise mode; HIIT can take the form of walking, running, cycling, swimming, rowing, and other activities. The HIIT phase should be preceded and followed by a 5- to 10-minute warm-up and cool-down period at or below the recovery interval intensity.

Numerous variations of HIIT protocols can be created and implemented by changing the time spent in the work and/or rest intervals. Gradually build up to 8 to 10 repetitions and be careful not to make the recovery interval too short. A sample protocol might be:

- 60 seconds Hard (7 on a 10-point scale)
- 60 seconds Easy (4 to 5)
- 30 seconds Hard (7 to 9)
- 90 seconds Easy (4 to 5)
- Repeat above sequence

Mixing one to two HIIT sessions into the weekly training program will stimulate additional physiologic adaptations, provide training variety, and add an element of fun to the workout. A certified exercise professional can assist you in creating a realistic and rewarding HIIT program.

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