

HIIT

HIIT (*High Intensity Interval Training*) is a fitness exercise technique involving alternating high-intensity anaerobic exercise for a limited time (e.g. 20s) with low-intensity aerobic exercise or complete rest for a limited time (e.g. 10s).

HIIT training can be applied to a number of different exercises or sports, e.g. jumping rope, cycling, running, skating, swimming, a set of exercises (squats, push-ups), etc.

Doing HIIT

HIIT training begins with a 5-minute *warm-up* , which is followed by the HIIT training itself, which includes several repeated high-intensity exercises interrupted by low-intensity exercises or pauses, and finally comes the part of cooling down the body, the so-called *cool-down* .

The high-intensity part of training requires maximum performance, it should be done at 85-90% of the maximum heart rate, the "resting" part at 40-50% of the heart rate ^[1]. The number of cycles and the length of the entire training is based on individual possibilities.

A typical HIIT training schedule is a *2:1 ratio* between high intensity exercise time and recovery time. For example, 30-40 seconds of jump squats interspersed with 15-20 seconds of slow jogging in place.

Tabata

It is an exercise method founded by the Japanese professor Izumi Tabata during his research in 1996. It was found that 20s of strenuous cycling alternated with 10s of slow cycling^[2] for 4 minutes provides the same VO2 max value (maximum oxygen utilization - what the greater the VO2 max, the fitter and more persistent the athlete is due to higher oxygen utilization) as cardio training of a lower intensity performed for 45 minutes 4 days a week.

Today, *tabata* refers to a way of doing HIIT training with 20 seconds of high intensity exercise and 10 seconds of low intensity exercise.

Benefits of HIIT

It is proven that HIIT training offers many benefits in the area of weight loss, improvement of physical condition and the body organism. HIIT improves:

1. **Cardiovascular system** - an increase in the value of VO2 max was found both in patients with ischemic heart disease and in healthy individuals ^[3]
2. **Abdominal and visceral fat reduction** - significant reduction in visceral and abdominal fat has been confirmed in 39 studies involving over 600 participants
3. **Brain activity** - a higher cognitive function of the brain was found in children practicing HIIT ^[4]
4. **Insulin resistance**
5. **Blood pressure** and **cholesterol**

Links

Related articles

- Heart frequency
- Insulin rezistance

External links

- The effect of HIIT on visceral fat reduction - in Czech (<https://link.springer.com/article/10.1007%2Fs40279-017-0807-y>)
- HIIT (https://en.wikipedia.org/wiki/High-intensity_interval_training#Procedure)

Used literature

SEAN, Bartram. *Idiot's Guides: High Intensity Interval Training*. 1. edition. DK Publishing, 2015. ISBN 9781615647477.

SEAN, Bartram. *High-Intensity Interval Training for Women: Burn More Fat in Less Time with HIIT Workouts You Can Do Anywhere*. 1. edition. DK Publishing, 2015. ISBN 9781465435354.

Reference

1. JOYCE S, Ramos. , et al. The Impact of High-Intensity Interval Training Versus Moderate-Intensity Continuous Training on Vascular Function: a Systematic Review and Meta-Analysis. *Sports Medicine*. 2015, y. 45, vol. 5, p. 679-92, ISSN 1179-2035.
2. ROZENZWEIG, Fara. *Active* [online]. [cit. 2017-12-16]. <<https://www.active.com/fitness/articles/what-is-tabata-training>>.
3. MILANOVIC, Zoran. , et al. Effectiveness of High-Intensity Interval Training (HIT) and Continuous Endurance Training for VO2max Improvements: A Systematic Review and Meta-Analysis of Controlled Trials. *Sports Medicine*. 2015, y. 45, vol. 10, p. 1469-81, ISSN 1179-2035.
4. MOREAU, David. *eLIFE* [online]. [cit. 2017-12-16]. <<https://elifesciences.org/articles/25062>>.