Prevention column

WORKOUTS – JANUARY 2020

HIIT, Tabata, CrossFit, spinning...

Interval training workouts: What are they? Are they for everyone? How do we do them safely?

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EXPERIENCE LA CAPITALE'S PREVENTIVE APPROACH

You have likely already heard about CrossFit, spinning, Tabata or HIIT. All of these workout methods have one thing in common: They all involve interval training. Interval training consists of alternating between periods of high intensity and periods of low-to-moderate intensity. In this article, you will learn more about the different forms of interval training workouts. We will cover the pros and cons and provide tips on integrating new intervals into your training sessions.

HIGH INTENSITY

You are breathing rapidly and can't say more than a few words at a time. It is possible to maintain this level for more than 10 minutes at a time without taking a break.

MODERATE INTENSITY

You're breathing too hard to maintain a conversation, but you can say a whole sentence. You could maintain this level for about 30 minutes.

LOW INTENSITY

You can talk while you are doing your workout. You could maintain this level for an hour or more.

WORKOUT METHODS **interval training**

CrossFit

CrossFit is a trademarked fitness methodology that is carried out in relatively small gyms (or boxes, to use the CrossFit lingo). CrossFit workouts involve a number of activities: running, rowing, jumping, weightlifting, strength training and pushing heavy objects like giant tires. The training is generally structured as a WOD (Workout of the Day).

Spinning

This group indoor cycling workout is led by a trainer. The participants alternate between periods of intense exertion and recovery periods.

Tabata

This training method, named after the scientist who discovered the protocol, consists of alternating between 20 seconds of extremely intense training (170% of VO2 max), followed by 10 seconds of rest, for four minutes. This type of training is now mainly associated with very intense and very short interval training workouts.

HIIT

HIIT, or high-intensity interval training, is fairly broad and may include the above training methods. ■

Interval training: the pros

Interval training enables us to increase our cardio-respiratory capacity more quickly than training at a constant intensity level.

Aerobic capacity is referred to as the VO2 max. VO2 max represents the maximum amount of oxygen your body can use in a set amount of time. Usually, this measure is expressed in terms of millilitres of oxygen used by the body per kilogram of body weight per minute. For example, a VO2 max of 50 ml O_2/kg/min means that the person is able to use 50 ml of oxygen per kilogram of body weight per minute.

It is estimated that, with equal workout length, interval training provides about 20% more improvement in the VO2 max than training at a constant intensity level. Interval training also apparently has the greatest improvements in those whose VO2 max is lower.[1]

INTERVAL TRAINING IS MORE EFFICIENT

A research study[2] compared the effects of continuous training to those of interval training. It concluded that both protocols had a similar impact on the body composition of the participants, but interval training required a 40% less training time commitment. ■

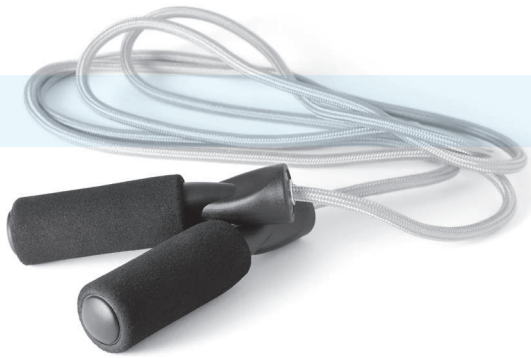
Interval training: the cons

INCREASED RISK OF INJURY IN CERTAIN SPORTS

In high-impact aerobic sports, such as running, interval training workouts increase the stress on a person's muscles, bones and joints. Therefore, a rapid increase in the amount of interval training you do in this type of sport is not recommended.

Since there is less risk of sprains and strains in low-impact sports such as cycling, interval training can be integrated more quickly into your workouts, and the amount you do can be increased more quickly.

A study focused particularly on the risk of injury in high-intensity interval training workouts of the CrossFit type. A correlation was noted between the popularity of high-intensity interval training workouts and an increase in the number of injuries reported.[3] ■



Is it right for everyone?

Here's how to ensure that you stay safe during interval training.

If you would like to try interval training but don't know where to get started, you will need to adjust your workout based on your level of experience and the activity you choose.

BASED ON **YOUR LEVEL OF EXPERIENCE**

If you are already doing interval training on a regular basis, good for you! Keep it up!

If you work out regularly but never do interval training, integrate this new training method into your program gradually. For example, the first time you do interval training, you could aim for a total of three minutes of high-intensity activity, which could be a minute of high-intensity training three times, followed by a minute of low-intensity activity.

If you are currently sedentary and want to start doing interval training, choose a low-impact sport and ease your way into it. If you are exhausted after a workout, you've done too much too fast. A good way to get started would be to do some cycling and integrate five or six 30-second sets of high-intensity activity, followed by a minute of rest.

BASED ON **THE ACTIVITY YOU CHOOSE**

Interval training running

If you already go for runs on a regular basis and would like to integrate interval training into your workouts to boost your performance, take it slow. The first time you try interval training, you could aim for around three minutes of intense, fast paces. For example, if you usually run 5K in 30 minutes, the next time you go for a run, you could could have a 15-minute warm-up, running at a moderate pace, then alternate between a minute at a faster pace and a minute at a slower pace. After that, you could finish your run with 10 minutes or so at a moderate pace. It's just that easy! Because of the amount of stress it puts on your body, it is recommended that you do interval training no more than two or three times a week.

CrossFit workouts

Since a number of the CrossFit movements are fairly complex, it is strongly recommended that you have a professional trainer with you when getting started. The guidance you receive from the trainer as you move forward can help prevent injuries.

Cycling workouts

A 2010 cycling study[4] used the following protocol: Warm up for five to ten minutes. Then, try to do the following sequence eight to ten times: 60 seconds of high-intensity pedalling, followed by 75 seconds of low-intensity pedalling. During the study, the participants who did the 20- to 30-minute workout four times a week experienced a remarkable improvement in their performance. If you do not have much time to devote to workouts and would like to ride your bike or use an exercise bike, this could be a good training method for you. ■

In conclusion

All in all, interval training enables people to obtain health benefits and enhance their performance to a degree that is equivalent to continuous training but in less time. It can, therefore, be a good way to integrate physical activity into a busy schedule. However, bear in mind the fact that integrating intensity training too quickly can result in joint injuries. Contact a kinesiologist or a trainer for more personalized advice! ■

1. Effectiveness of High-Intensity Interval Training (HIT) and Continuous Endurance Training for VO2max Improvements: A Systematic Review and Meta-Analysis of Controlled Trials. Milanovi Z[1], Sporiš G[2], Weston M[3].
2. The effects of high-intensity interval training vs. moderate-intensity continuous training on body composition in overweight and obese adults: a systematic review and meta-analysis.Wewege M[1], van den Berg R[1], Ward RE[1], Keech A[1].
3. Injuries sustained during high intensity interval training: are modern fitness trends contributing to increased injury rates? Article in The Journal of Sports Medicine and Physical Fitness, February 2019.
4. A practical model of low-volume high-intensity interval training induces mitochondrial biogenesis in human skeletal muscle: potential mechanisms Little JP[1], Safdar A, Wilkin GP, Tarnopolsky MA, Gibala MJ.

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