



## **Sprint Interval Training Program**



According to a recent study conducted by McMaster University in Ontario, Canada, the physiological effects of sprint interval training (SIT) are similar to the effects of moderate-intensity continuous or endurance training (MICT). Sprint interval training consists of several short periods of intense exercise, followed by a period of low-intensity exercise, whereas moderate-intensity continuous exercise is characterized by a constant level of moderate exercise for a long period of time.

Over a period of 12 weeks, researchers recorded the changes in body fat, heart and lung fitness, blood sugar control, and skeletal muscle content

in participants who were deemed inactive by an International Physical Activity Questionnaire. The total body fat percentage in all participants decreased by two percent, and the maximum oxygen intake increased by about 19 percent for both the SIT and MICT groups. Additionally, the body's ability to absorb blood sugar similarly increased in both groups, and the concentration of an energy-metabolizing protein in muscle cells increased by 48 percent and 27 percent in the SIT and MICT groups, respectively.

Twelve weeks of sprint interval training decreased body fat and increased cardiorespiratory fitness, blood sugar control, and skeletal muscle fitness to the same degree as moderate-intensity training; the only difference between these two exercise methodologies is the length of time each one took. A session of SIT took ten minutes, whereas a session of MICT took 45 minutes—almost an 80 percent difference in time commitment. While SIT may appear to be a better option than MICT with regard to time commitment, not all people have the level of physical activity, fitness, and motivation that SIT requires.

Dr. Steven Chudik and the Orthopaedic Surgery & Sports Medicine Teaching & Research Foundation (OTRF) along with Fitness Consultant and Personal Trainer, Keith Tesch, CSCS, CNT, developed the following sprint interval training program.

Before starting any program, you should consult your physician. Also, always warm up for several minutes before beginning any workout and never exercise beyond the level at which you feel comfortable. The following are some specific warm-up exercises to be performed before each sprint interval training session.

*Continued on next page*

Warm Up Exercises	Reps
Jumping Jacks	30
Foot to Hand	10 each side
Inchworm	5
Leg Swings Forward and Back	10 each leg
Leg Swings Side to Side	10 each leg
Butt Kicks	20 each foot
High Knees	10 to 25
Skipping Forward	15 to 20 yards
Carioca (alternate crossing leg with trailing knee)	15 to 20 yards each direction

Good body and running mechanics also are very important to minimize injury and ensure you benefit from the program. Here are a few tips to remember as you perform the sprinting exercises in the program.

**Tips for Proper Running Mechanics**

- Stay relaxed in your face, neck, and shoulders
- Keep your upper body tall and upright
- Keep your elbows tight to your body
- Avoid crossing your body with your arms
- Drive your foot into the ground
- Lift your leg at the hip
- Swing your arms at your shoulders, not your elbows

**Important Note on Technique**

As with any exercise program, it is essential to maintain proper technique during the warm-up and exercise to receive maximum benefits and prevent injury. Not all exercises are suitable for everyone. Consult your physician before beginning this or any other exercise program. Also, always warm up for several minutes before beginning any workout and **NEVER** exercise beyond the level at which you feel comfortable. If at any time you feel you are exercising beyond your current fitness abilities, or feel discomfort, discontinue exercise immediately and reconsider your participation in this program.

The sprint training program provided in this publication should not be attempted by anyone who does not meet minimum fitness requirements or who has a history of hip, knee, ankle, shoulder, elbow, wrist or spinal (neck or back) problems.

**THIS WARNING IS NOT TO BE DISCOUNTED.** There are many other fitness alternatives if you have weaknesses or are prone to injuries. The user assumes all risks of injury in the use of this program.

## OTRF Sprint Training Program

Fitness Level	Jog/Sprint Time (Seconds)	Number of Sets by Weeks 1-6					
		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
<b>Bad Shape</b>	60/15	5	6	7	6	7	8
<b>Average Shape</b>	60/15	6	7	8	7	8	9
<b>Good Shape</b>	60/30	5	6	7	6	7	8
<b>Great Shape</b>	60/45	6	7	8	7	8	9
<b>Elite Athlete</b>	60/45	7	8	9	8	9	10
		Number of Sets by Weeks 7-12					
Fitness Level	Jog/Sprint Time (Seconds)	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<b>Bad Shape</b>	60/15	9	6	7	8	9	10
<b>Average Shape</b>	60/15	10	7	8	9	10	11
<b>Good Shape</b>	60/30	9	6	7	8	9	10
<b>Great Shape</b>	60/45	10	7	8	9	10	11
<b>Elite Athlete</b>	60/45	11	8	9	10	11	12

This is a 12-week sprint interval training (SIT) program. Perform the SIT workout two to three times per week. One begins by estimating their starting fitness level either “bad shape,” “average shape,” “good shape,” “great shape,” or “elite athlete.” After a proper warm up (see next page), one performs a comfortable jog for 60 seconds followed by 15 to 45 seconds of a continuous and sustained sprint (based on fitness level chosen) to complete a set. Sets of jogging and sprinting are repeated a number (five to 12) of times without rest based on your fitness level and the week number (see above chart). Start at a conservative speed for week one. Each week as you increase your sets, you also can increase your sprint speed. Keep the jogging speed the same each week. As your conditioning level progresses, you can advance your fitness level as tolerated.

## Sports Injury Medicine Clinic

To assist coaches, athletic trainers, athletes and parents, Dr. Chudik has a Monday evening Sports Medicine Injury Clinic in his Westmont office. During this time, athletes can be seen and treated by Dr. Chudik, a board-certified orthopaedic surgeon and sports medicine physician. Onsite, there is an X-ray machine and an open-bore, high-field magnetic resonance imaging (MRI) to expedite a diagnosis and treatment. To request an appointment with Dr. Chudik, call 630-324-0402, or schedule online at [stevenchudikmd.com/schedule-online/](http://stevenchudikmd.com/schedule-online/).

## About OTRF

Steven Chudik, orthopaedic surgeon and sports medicine physician with the Steven Chudik Shoulder and Knee Injury Clinic, founded the Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation (OTRF) in 2007. OTRF is a nonprofit, 501(c)(3) organization dedicated to funding research and education for the purpose of keeping people active and healthy.

Dr. Chudik has seen a growing demand by patients, athletic trainers and clinicians for up-to-date medical information and unbiased research on injury prevention—as well as information on injuries, arthritis (wear and tear) to joints, cartilage, tendons, ligaments, etc. To fulfill these requests, OTRF produces and distributes an e-newsletter, shares information about health performance-related issues like nutrition and fitness, hosts athletic training educational programs, conducts seminars for healthcare providers and the community and most important, funds unbiased research and development particularly in emerging areas such as arthroscopic and minimally invasive surgery for injuries to the meniscus, labrum, rotator cuff, ACL and cartilage.

### Sprint Training Program

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However, none of this is possible without ongoing financial support. We are extremely grateful to all those who have contributed in the past. Many donations come from patients or their family members who benefited from Dr. Chudik's expertise. If you are interested in helping OTRF fund education and research programs, please contact Dr. Chudik at 630-794-8668 or visit [otrfund.org](http://otrfund.org) and click on the contributions tab at the top. Also, many companies sponsor programs that match charitable donations made by employees. Some even match retirees' and/or spouses' donations. Matching gift programs are a great way to double your generosity. Regardless of the amount, every contribution helps make a difference today and for years to come.

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