

# FITNESS IN A FLASH

Interval training can bring great results in minutes

By Beth Howard

**F**itness fads come and go. Remember the Hula-Hoop workout? How about Jazzercise and pole dancing? But the latest trend – workouts that take mere minutes to complete – should have more staying power. Accumulating research shows that 10-, seven-, and even one-minute workouts of high-intensity interval training, or HIIT, can be as effective as the traditional variety, if not more so, in a fraction of the time. “A small time commitment can get you some pretty potent benefits,” says Jonathan Little, assistant professor of health and exercise sciences at the University of British Columbia and an investigator funded by the Canadian Institutes of Health Research, which has been at the forefront of the HIIT research.

These routines, which are taught at many fitness facilities in boot camp-style programs, are characterized by quick bursts of intense activity interspersed with periods of mild activity. “You increase the intensity of your workout out of your comfort zone for a few seconds up to a few minutes and then you take a break and rest,” Little explains. “You then repeat that two to 10 times throughout a workout.”

The benefits of this approach can be striking. In landmark research, Martin Gibala, chair of the department of kinesiology at McMaster University in Ontario and author of *The One-Minute Workout* showed with his research team that the fitness gains from a somewhat more intensive version of HIIT, known as sprint interval training, or SIT (three 20-second exercise

sprints with two-minute recovery periods of light activity between them, performed three times a week) equaled those resulting from the recommended activity guidelines: 150 minutes of moderate exercise a week, or about 30 minutes, five times a week.

**How does it work?** Interval workouts force the heart and lungs to work harder in the “sprint” mode than they would in a typical workout, which leads to faster gains in aerobic capacity, helping the heart and lungs. “There are improvements in vascular function,” says Little, so your blood vessels are “able to dilate better, and they’re more elastic.” In fact, two sessions a week of a high-intensity regimen lowered blood pressure by 9 percent, according to a study from Ab-



H18\_203  
@ BROOKS - MAKE JUMP  
ROPE STAND OUT



H18\_200

erty University in Dundee, Scotland. Participants, each over age 60, pedaled all-out for a mere six seconds, followed by about a minute of rest, working up to 10 sprint-rest cycles per workout.

**Muscles also seem to get** an extra boost from HIIT-style exercise, which could be significant as people age and begin to lose muscle mass. “When you go out for a walk, only about 60 percent of the muscle fibers in your legs get any benefit,” Little says. “The other 40 percent don’t because you aren’t working hard enough. Even if you’re walking steadily every day you’re going to lose some conditioning in muscle fibers that don’t get called upon.”

This is particularly important with the body’s so-called fast-twitch muscle fibers, which help maintain the strength needed to carry out the tasks of daily living like climbing stairs. “If we’re sedentary all the time or just do very light activity, we never call upon these fibers and they atrophy and shrink,”

Gibala says. “But when we challenge them, pushing the system a little bit in intervals, we recruit more fast-twitch fibers.” By the way, you can turn an ordinary walk into one that activates more muscle fibers by incorporating HIIT principles: When you’re walking, just speed walk (or even break into a run) for 30 seconds, then resume your normal pace for two minutes, repeating the cycle several times.

A new study from researchers at the Mayo Clinic in Rochester, Minnesota, revealed surprising changes at the cellular level from these workouts, according to senior author Sreekumaran Nair, a professor of medicine and endocrinology. Researchers assigned a group of people ages 18 to 30 and another group ages 65 to 80 to interval training, weight training, or a combination of the two for three months. Muscle biopsies taken at the start of the study and 72 hours after the final exercise session showed that doing high-intensity interval training improved the ability of mitochondria –

the powerhouse of cells – to generate energy by an average of 49 percent in younger people and 69 percent in older individuals, effectively reversing many of the age-related changes in these proteins. HIIT also improved participants’ insulin sensitivity.

**Several studies have** also shown that HIIT workouts may do a better job boosting glucose control than regular training. In new research from the University College of Southeast Norway, exercise scientists compared a group of people with Type 2 diabetes participating in HIIT workouts to another group that did a steady, moderate workout. Exercise led to lower body fat, blood pressure, and waist and hip circumference in both groups. But only those doing intervals significantly lowered their A1C levels, a measure of glucose control over time, says lead study author Eva Maria Støa. Meanwhile, new research from California State University at San Marcos indicates that

## PLAYGROUNDS FOR GROWN-UPS

**S**ince Andrea Saunders began exercising at the outdoor “fitness zone” in Gwen Cherry Park in Miami about a year ago, she’s lost 28 lbs., something she hadn’t been able to accomplish before. “I love being outside,” she explains. “And it’s free.”

The outdoor play space is just one of

hundreds that have sprung up around the country in recent years as parks and municipalities take on two major population trends: aging and obesity. Two nonprofits – The Trust for Public Lands and KaBOOM!, which serves underprivileged communities – are key driving forces. Nationwide, KaBOOM!

has installed 65 multigenerational playgrounds, which include equipment for both children and adults, while the Trust for Public Lands has built 205 outdoor fitness zones for adults in 42 city parks, from Portland, Oregon, to Portland, Maine.

Such facilities often boast joint-friendly equipment and are

designed to help older people stay fit and independent. Research has shown that regular use of an adult playground improves balance, speed and coordination, capabilities that can boost seniors’ ability to live on their own. Those that feature equipment for both kids and adults also allow the generations to bond, a plus

HIIT workouts are more enjoyable than moderate continuous activity, which should make these regimens easier to stick with.

Still, Gibala notes, “There’s no free lunch. There is an intensity duration trade-off. The more intense the exercise, the more uncomfortable it is.” That means you might huff and puff more than you’re used to during the high intensity portion of the workout. Skeptics have also suggested that people doing interval training may be at a greater risk for injury. (Always get your doctor’s OK before starting an exercise program if you have been sedentary.) “It makes sense to be a bit cautious with high-intensity interval training, because it is more vigorous,” Little says, but “ultimately the risk of being sedentary and not doing anything at all is much greater.”

Exercise scientists are just glad to have another effective fitness option.

“

HIIT workouts may do a better job boosting glucose control than regular training.

Currently only about half of Americans 18 and over manage to meet the recommended physical activity guidelines. Experts hope that these time-crunching workouts will nudge

more people off the couch, helping to turn the tide against rising rates of obesity, diabetes and heart disease. Says Gibala, “The more options we have, the better.” ●

for older people who experience loneliness, which is linked to poorer heart and brain health. Just being in the open air offers an important benefit. Says Kellie May, director of health and wellness for the National Recreation and Park Association, “Exercising outdoors, surrounded by nature, makes it easier to stick with.” —B.H.



H18\_202

Taking an outdoor fitness break