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# making the Grade



■ BY MATT BRZYCKI

One of the oldest and most popular ways to increase muscular strength and aerobic fitness has been dubbed "circuit training." It's fairly simple: In general, the idea is to perform a series of exercises (or activities) in a sequence (or "circuit") with a very brief recovery interval between each "station."



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#### IS IT EFFECTIVE?

Male police officers from the Florida Highway Patrol volunteered to participate in a study that sought to determine the effects of circuit training. The officers were assigned to either an experimental group that did circuit training or a control group that did no training. The officers in the experimental group performed three workouts per week for 16 weeks. Each workout lasted about 20 minutes and involved 12 exercises. The number of sets of each exercise wasn't stated by the researchers – nor was the specific exercises – but based upon the duration of the workout, it was likely one set. The officers did 8 - 12 repetitions of each exercise and were instructed to increase the resistance by 5 percent in their next workout whenever they could do more than 12 repetitions in a given exercise.

Compared to the officers in the control group, the officers in the experimental group improved in several physical measures including an increase in arm size and a decrease in waist size. But the researchers also found that the officers in the experimental group increased their job satisfaction (specifically with respect to the nature of their job and co-workers) and decreased their feelings of depression, anxiety and hostility.

#### TYPES OF CIRCUIT TRAINING

The two main types of circuit training are circuit weight training and circuit aerobic training. In addition, there are several variations to those themes. Let's take a closer look at the different types of circuit training.

##### Circuit Weight Training

The merger of circuit training with weight training is known as "circuit weight training" (CWT). Usually, CWT is

# Circuit training benefits body and soul



performed on a multi-station apparatus. This offers several advantages. First of all, the exercises of multi-station equipment are in close proximity to each other, which allows you to move quickly around the circuit. Secondly, the selectorized weight stacks of multi-station equipment enable you to make easy and speedy adjustments in the resistance. But CWT can also be performed with single-station equipment and/or free weights provided that the distance between the exercises isn't too great.

The number of exercises you do in the circuit and the amount of recovery that you take between the exercises is a function of your level of fitness. However, a comprehensive session of CWT involves a series of about 12 - 14 exercises that address each of your major muscle groups. A total-body circuit on a typical piece of multi-station equipment

might be as follows: leg press, leg curl, leg extension, bench press, dip, pull-up, lat pull down, seated press, shoulder shrug, bicep curl, tricep extension, wrist flexion and sit-up/crunch.

At each station, you can either perform a given number of repetitions or do as many repetitions as possible during a specified time frame (with a controlled speed of movement). It should be noted that the resistance you use at each station should permit you to reach muscular fatigue by the end of the allotted work interval.

#### Circuit Aerobic Training

Since the term "cross training" came into vogue in the mid-1990s, there has been a growing interest in circuit aerobic training (CAT), which involves a series of aerobic activities or stations. The circuit can be designed a number of different ways: You can vary the number of aerobic activities, the duration and intensity of each activity and the amount of recovery taken between stations. As with all other types of training, these variables are dependent upon your level of fitness. Your goal, however, is to perform the equivalent of about 20 - 60 minutes of aerobic activity with an appropriate level of effort.

#### Other Variations

You can get pretty creative with circuit training and even incorporate elements of skill training. I heard a great example of this several years ago during a SWAT Fitness Specialist Certification Program in Voorhees. One of the officers in the class stated that he did a version of circuit training that focused on boxing. His stations included activities such as hitting a speed bag, jumping rope, punching a heavy bag and shadowboxing.

#### THE BOTTOM LINE

Circuit training has a long history of being popular and has been shown to be an effective tool for enhancing muscular strength and aerobic fitness as well as improving various psychological measures.

*Matt Brzycki is the coordinator of Recreational Fitness and Wellness at Princeton University. A former Marine Drill Instructor, he has authored, co-authored or edited 16 books on strength and fitness, including SWAT Fitness (available at [www.optacinternational.com](http://www.optacinternational.com)).*