

Short Circuit

Bill Starr: 2006

Quick-Hit Circuit Training Can Spark New Results

There are several good reasons for using the circuit system of training, at least for part of the year. Whenever I suggest that someone try using a circuit for a while, he generally assumes that I mean working out on a series of machines. Not exactly. While machines can be used quite effectively for circuit training, so can free weights, both barbells and dumbbells, as well as a combination of free weights and various machines.

Most athletes decide to employ the circuit system rather than another training method because they're short on time. Instead of having to spend an hour and a half in the weight room, they can zip through a circuit in one-third the usual training time.

Another big plus of the circuit system is that when you do it properly, you work the muscles and corresponding attachments of the body proportionately. That makes circuit training ideal for beginners, older athletes, those who train to maintain a high level of fitness, women and youngsters.

The main reason it is particularly beneficial to anyone just starting a weight-training routine is that it doesn't let one area move too far ahead of any other. Maintaining a balance between bodyparts is necessary at all levels, but especially in the beginning, when you establish the foundation for all future gains.

The circuit is equally useful to those getting back into heavy training after an extended layoff. People in that group are very anxious to return to lifting their former numbers on all the exercises, and they attack the weights too rapidly. They don't allot sufficient time for muscle groups that respond at a slower rate than others. When a certain bodypart starts to lag way behind, sore spots, dings and troublesome injuries start occurring. Everyone fully understands that nothing hinders progress more than an injury.

An overlooked positive side effect of using the circuit system is that it can enhance cardiovascular and respiratory capacity while improving strength—if, that is, you move through the workout quickly. That's the key. You must move from station to station with little or no rest in between.

The accepted guideline for an aerobic activity is that your pulse rate must be elevated to 60 to 90 percent of maximum, with age and level of fitness the determining factors, and held there for a minimum of 20 to 30 minutes, depending on which authority you agree with. I happen to like the longer period, and most workouts take at least a half hour. You can meet both of those conditions easily by doing a circuit on the machines or with free weights—or by mixing the two.

Machines let you change resistance much faster than you can with free weights—unless you're using dumbbells and have a long row of them at your disposal. The downside is that machines are not as effective in building strength in the attachments, and in most fitness facilities the machines you want to use are generally the most popular. If you have to wait around for an extended period, you lose the aerobic edge.

If you train at home, setting up several stations and moving through them in a fast pace poses no problem. However, if you train in a commercial facility, you may often find it difficult to perform a circuit because you can't control the environment. One way around that is to train when there's slow traffic in the gym.

Whenever I wanted to get in a quick workout and planned on doing a circuit, I'd get to the weight room at 2:30 or three in the afternoon. The crowd didn't show up till after four, which left me ample time to set up my stations and zip through my routine.

A circuit that emphasizes strength will improve all levels of fitness, including endurance, even if you choose not to hurry through the session. That's another reason I like a circuit for youngsters. While they're getting stronger, they're also improving their aerobic capacities. I know that's true because I've observed it countless times.

I was staying with Lani Bal in Carmel, California. I ran twice a week and lifted four days a week. Lani expressed a desire to start training with me. Back home on Maui, he frequently hiked through Haleakala crater and lava tubes down the mountain to Hana, a grueling trek of more than 20 miles through jungle and some treacherous terrain. He wanted to improve his overall strength as well as his cardiovascular base, since he often carried a heavy pack.

He joined me on Sunday at the Carmel High School track to begin his program. I usually ran the roads, but I wanted a measured course in order to know exactly how far he ran. Even though I maintained a slow pace, after only half a mile he was toast. The next day he started his strength work. Bailey's Gym in Monterey catered to a working-class clientele, so we trained in midafternoon and had the place all to ourselves. Lani did the Big Three in a circuit—bench, squat, and power clean. Working quickly, although not really fast due to his lack of conditioning, he made increases and at each session was able to move through his workout at a faster pace.

For a month all he did was weight work—no running at all. I told him that if he improved his strength to a considerable degree, he'd be able to handle the aerobic work much more easily and that he should put his energy into the lifting for four weeks. He kept a record of all of his workouts, and after he had improved all his lifts by at least 40 percent, I encouraged him to take another shot at running.

He covered two miles on the Carmel track; we moved at a much faster speed. There was no doubt that he could have gone even further, but I had him stop because he'd improved considerably, and I knew that the amount of increase was taxing his knees and ankles.

Fitness experts often overlook a very important fact regarding the aerobic benefits of strength training: Someone who makes the large muscle groups, along with the corresponding attachments, stronger is going to be able to participate in any physical activity much longer, and that includes aerobic activities. Increase leg strength, and you'll be able to run, swim, row, bike or hike longer and faster—and also recover more rapidly.

I've received letters from readers asking for advice concerning their circuit routines. The problem most were having was that they weren't gaining any strength, or at least not as much as they wanted. The trouble was basic—they were doing far too many exercises in a workout to produce positive strength results. It's true that if you move from exercise to exercise expeditiously, you'll derive aerobic benefits. At the same time, too many exercises per session will limit strength gains. There's only so much energy

to go around, and when you spread it out over 12 or 15 movements, you just aren't going to make significant progress.

When I asked why they included so many exercises in one day, they answered that they wanted to cover all the bases. Makes sense on paper but not in reality. If your goal is to get stronger while doing the circuit system, limit your core exercises to three—never more than four—and your auxiliary exercises to three. You can put more effort into three exercises than you can a dozen or so. By selecting lifts that hit multiple bodyparts, you can cover all your bases while getting a great deal stronger.

For example, the power clean works all the muscles of the back, hips and legs and many in the shoulder girdle. No need to break the various bodyparts down and use separate movements for them. Plus, there's lots of variety to choose from. You can change your exercise selections often—at every workout if you so desire. Just keep your routines simple, working the exercises hard and heavy, and you'll achieve positive results.

Let's say that your goal in weight training is to maintain a certain level of strength fitness and you're not really interested in pushing the numbers up—the case with many 50-, 60- and 70-year-olds. Doing a circuit of a dozen exercises is okay, and in some cases the smart approach. In contrast to performing only a few exercises with heavier poundages, doing a lot forces you to use less weight. That's desirable for older athletes who have a history of joint problems, arthritis or osteochondritis. The exercise flushes blood to the joints and feeds the cartilage without being stressful. For that group of athletes I also recommend higher reps to help keep the weights even lighter.

So if your goal in using the circuit system of strength training is to keep your bones and joints healthy while maintaining a higher-than-average level of strength so you can enjoy taking long walks, riding bike trails or playing golf, more exercises is the route to take. By moving through the routine with purpose, you'll also be improving your cardiovascular and respiratory systems. Published reports have stated that those who exercise diligently three or four times a week for at least 30 minutes have 50 percent less chance of heart and circulatory problems than those who are sedentary.

I'm aware that many athletes prefer to separate their aerobic training from their lifting and don't feel the need to rush through the circuit. That's what I do. Yet I also know that when I go through my weight workout at a quicker pace than usual, I'm stimulating my muscles and attachments in a different fashion and that's always beneficial.

While you may not want to work fast when you do a circuit on a regular basis, it's to your advantage to do so periodically, just to jar your body a bit. It's an easy way to gain strength.

Going through a circuit quickly fits nicely on a light day. You should be working fast on those days anyway, and because you're handling less weight, relatively speaking, than you do on the heavy and medium days, moving through the stations rapidly is no problem. Condensing the time it takes to complete a workout aids your quest for greater strength and overall fitness.

Circuits with a few core exercises are ideal in-season workouts for athletes who compete several times during the week, as basketball, volleyball, baseball and lacrosse players do. Training during the season is essential if the athletes want to retain the strength they've gained in the off-season. At the same time they have to be careful to not do too much in the weight room because that can affect their performance on the field or on the court.

What athletes do in the weight room in-season must be balanced by what they do in practice or while participating in contests. The circuit is the perfect solution. It can be done in a very short time, which is really the most important consideration, and it enables them to handle heavy weights and retain or even gain strength. Not to mention the bonus of aerobic benefits.

One spring I had a group of baseball players at Hopkins who did a fast circuit religiously, sometimes four times a week. They never lifted on a game day but would train a few hours prior to practice or immediately after it. They worked in teams. After setting up three stations—squat, power cleans and either flat bench or incline—one would move from station to station while his teammates made the weight changes. That enabled the lifter to train at a very fast clip. Five sets of five would be completed in 15 minutes or less. On some days I had them take short breaks before their fourth and fifth sets so they could use more weight.

Then they'd switch roles, with the lifter becoming the loader and so on until the entire group had done the circuit. The loaders also took on the duty of cheerleader, and the encouragement had a positive effect on the lifter. They swore by the circuit, and every player who trained regularly in-season made strength gains. When the playoffs rolled around, they were primed and ready.

For athletes who decide to use a circuit in-season, I recommend staying with three core exercises, one each for the shoulder girdle, back and hips and legs. Start with three sets of five for each exercise. Increase to four, then five sets of five. Stay with that set-and-rep pattern throughout the season, and try to move the top-end weights up. Leave the smaller groups, such as biceps, triceps and calves, alone until the season is over. More often than not, the extra work causes an athlete to overtrain.

If you're not participating in a sport, you can work both large and small muscle groups in a circuit, although not at the same time. Work the major groups just as outlined, and then turn your attention to the smaller muscles with another circuit. Three exercises are enough for the auxiliary circuit. Keep in mind that you've already worked the smaller muscles to some degree when you hit the larger groups. So two—and never more than three—sets will be plenty. You also need to keep the reps fairly high—15s and 20s. You've taxed the attachments with the primary exercises. Your purpose in doing something for the smaller groups is to improve muscle strength, and you can accomplish that with higher reps.

You can do the same primary exercises at every workout if you want, or you can change them around to build variety into your routine. Select the auxiliary movements according to your needs, by which I mean your weaker points. Let's say your legs are lagging behind your back and shoulder girdle, strengthwise. For your secondary circuit do leg curls, leg extensions and adductors for two sets of 20 or three sets of 15.

In the event that your muscle groups are all basically equal in strength, select auxiliary exercises that are nonantagonistic. That forces the blood to circulate more rapidly, which is helpful in promoting health and fitness. An example might be a combination of dumbbell curls and calf raises on a machine; dumbbell inclines and leg extensions; or straight-arm pullovers and back hyperextensions.

I take advantage of the circuit system when I travel. The brief workout helps me maintain the critical discipline of consistency and doesn't take a great deal of time or effort. After I've been driving most of the day, a heavy workout isn't that appealing, while a short session with moderated weights is most invigorating.

Even if you don't feel the need to incorporate the circuit system into your yearly schedule, it's still a good idea to have at least one circuit in your training repertoire. Somewhere down the line it will come in handy when you find yourself pressed for time. It's also useful should you decide that you need a change in your routine to jolt your body and mind out of their complacent states. Therefore, it's smart to at least learn how to put together a circuit workout for future use,

After doing the circuit system for a while, you realize that your top-end numbers on the core exercises have leveled off. At that point start working all the sets for the core exercises in the conventional manner, one after the other. That's necessary if you want to improve on those lifts. You can and should, however, stay with a circuit for your auxiliary movements.

Remember that the circuit system, like an old friend, is always there when you need it. The circuit is a simple, effective way of improving strength and overall conditioning in a condensed fashion. It's useful in many situations and can be done with a variety of equipment in a limited space and in a short period of time. Not many training methods can make that claim.