

Kick Up Cardio wi

Circuit training can create excitement in your fitness center's cardio programming.

BY STEPHEN A. BLACK, M.ED., P.T., A.T.C./L., N.S.C.A.-C.P.T.

CURRENTLY, FITNESS CENTERS offer a variety of cardio and strength options. They offer a plethora of equipment and classes, yet attrition remains high. However, by combining the science of cardio and strength training with a motivated and energetic instructor, new programming that combines interval and steady-state routines can excite, motivate and retain your members.

What is circuit training?

The purpose of circuit training is to keep participants moving by only allowing minimal breaks between exercises. Rest is part of the circuit, and is based on overall goals. This workout is different from other programs or routines, such as supersets or compound sets that target one or two specific muscles and work with the fatigue factor of those particular muscles to increase the intensity of the workout. Circuit training, on the other hand, works because it creates an environment to keep pushing the body aerobically, while still challenging strength development.

Circuit training was popularized as a way to gain the benefits of both strength and cardio training. It originally involved performing a "circuit" in which exercisers moved from weight machine to weight machine rapidly, performing high-rep sets with low weight and short rest intervals. This was supposedly to keep heart rate up, as well as to gain strength. Unfortunately, this did not really develop either capability. In fact, it proved a significantly poorer method of development on both counts. The prospective research shows unequivocally that training both strength and cardio simultaneous-

ly diminished the benefits of both. Further, the research is clear that performing cardio before strength maintains the cardio effect, but enhances the strength-training session.

A classic Cooper Clinic study in 1982 studied the effect of performing a circuit workout three times a week. The study had 77 participants (a rather small cohort), who were divided into three groups. One group did not train at all, one group performed weight training and a third group jogged in between weight sessions. Not surprisingly, the group that didn't train saw no improvement in cardiovascular fitness. The weights group improved cardio fitness by 12 percent. And the weights-and-jogging group improved by 17 percent. Therefore, you could conclude that a circuit workout that incorporates weight and cardio training improves both strength and endurance, and kickstarts the metabolism. With circuit training, members will leave the fitness center using one-third more calories than they did during the workout, and will continue to do so for several hours, depending on the intensity of the circuit.

This shows that there are effective ways to circuit train. For example, circuit training could be used as a fun way to circulate members between "technique stations" or various types of drills. Circuit training programs should mix up a workout in a challenging fashion. Activities should be performed with adequate rest, and the emphasis can be on the skills developed from the variety of exercises. Other types of circuit training could be something like an obstacle course, where the focus is not on development of maximal strength or muscle mass, but rather mastery of difficult, repeated activities.

Circuit Training Basics

- Circuit training is basically aerobic weight training.
- Set up a number of stations with a variety of exercises that work the entire body (e.g., curls, pulldowns, leg curls, etc.).
- Use a fairly light weight that can be lifted without going to failure for a pre-set period of time.
- Have clients perform each exercise continuously for a specified time interval (e.g., one minute at each station), and go through the cycle one to three times or more. The time to get

to the next station is the rest interval. Add a cardio station or two for variety.

- It is a reasonably good way to perform aerobic work and weight training simultaneously.
- It also has the advantage of working the entire body in a short period of time, incorporating both aerobic and anaerobic training.

Example

- 30 seconds of squats
- 30 seconds on a stationary cycle or jogging in place or on a treadmill

- 30 seconds of lunges
- 30 seconds of cycling or jogging
- 30 seconds of chest press
- 30 seconds of cycling or jogging
- 30 seconds of bent-over rows
- 30 seconds of cycling or jogging
- 30 seconds of shoulder press
- 30 seconds of cycling or jogging
- 30 seconds of bicep curls
- 30 seconds of cycling or jogging

th Circuits

Sample Circuits

Circuit training allows fitness professionals to create an environment to challenge the beginner as well as the advanced fitness participant, even within the same class or studio environment. Circuit training also allows for immediate success, which will keep participants coming back for more with a renewed enthusiasm for exercise, fitness and fun. Here are some examples of circuits to try with members:

High intensity, short duration

- This version of aerobic work is performed around anaerobic threshold as determined by metabolic testing (versus formulas that misrepresent appropriate heart rates). It is a very demanding form of training.
- Participants exercise for between five to 20 minutes, depending on a client's fitness level and intensity.

Aerobic interval training

- The first way of performing aerobic interval training involves performing a period of moderate- to high-intensity aerobic work, alternating with a period of rest of low-intensity work (e.g., three minutes of fast running then one minute of slow walking, repeated four times).
- You can vary the intervals and intensities to your liking (e.g., 10 minutes of moderate work, two minutes easy, one minute hard, or perhaps five minutes hard then five minutes easy).
- The key is variation during the workout, while not working so hard that participants must stop completely.

Anaerobic interval training

- Anaerobic interval training involves going hard for short periods of time, then resting for equal or longer periods of time.
- It is performed at intensities of 85 to 100 percent max HR.
- Here is an example of how it works: Have participants sprint as hard as they can for 30 seconds, walk for 30 seconds, sprint for 30 and walk for 30, etc. Repeat three to six times, depending on their fitness levels. If the group is mixed, give specific intervals, depending on their current level of fitness. This works well for group cycling classes.

Fartlek training

- Translated from Swedish, "fartlek" means "speed play."
- Basically, mix up all of the above types of training into one session (e.g., have clients run for 10 minutes, sprint for 30 seconds, walk for two minutes, run fast for two minutes, jog slowly for five minutes, then sprint again). This is a good way to work through the entire intensity spectrum, as well as prevent boredom.



Keep in mind that weight training is particularly important for women, who tend to lose muscle mass at a rate of 1 percent per year in their late 30s and 40s. This muscle mass gets replaced by fat, and the fat tends to leave the subcutaneous tissue and migrate to the core. The other advantage is in the delayed onset of osteoporosis/osteopenia in women and men. Muscle acts as a cushion against injury, while giving the body a trimmer, tighter appearance.

The common misconception

Circuit training isn't just for women. It does not mean using light dumbbells and no rest periods. The misconception that lifting heavy weights with few repetitions is the only way to increase strength holds no water in this instance. Muscle responds to the total tension produced. Using lighter weights with more sets during a set period of time will produce the same, if not more, total tension, and will stimulate muscle growth.

The benefits

Circuit training allows work on the cardiovascular system while simultaneously working on strength. Since the participant is constantly progressing through the workout, the heart rate will remain elevated, and the exerciser will reap the same benefits as the person who logs all those miles on the treadmill. This type of training is far superior to steady-state exercises when it comes to increasing clients' VO_2 (the amount of oxygen a person can uptake during exercise). Take note

that I did not say VO_{2max} , as this type of training is very high intensity, and is reserved for well-conditioned, healthy athletes. Circuit training also stimulates the mind, which keeps boredom at bay.

Be mindful of members performing long-duration, moderate-intensity exercise, as this may put participants in a catabolic state, where they will start losing muscle mass. Hence, the importance of determining appropriate intensities through metabolic testing. Determining VO_2 at various intensities and aerobic threshold, among other variables, will allow safe, effective and results-driven activity. Monitoring intensity and recovery with a heart rate monitor will enhance outcomes and provide an additional motivating variable to participants.

The effects on specific muscle fibers should also be considered. Slow-twitch muscle fibers are more compatible with short, intense bouts of exercise such as sprinting (group cycling) and weightlifting. When training in one of these modes, the muscle tissue has a tendency to take on the appropriate properties. As an illustration, imagine a marathon runner and a sprinter. The sprinter is composed of fast-twitch muscles and carries a great deal more muscle mass, whereas the marathon runner has a lot of thin, slow-twitch muscle fibers. This may be extreme to prove a point; however, it is easy to see how much of a difference the type of training has on body shape.

Due to fewer rest periods, there will be a greater release of testosterone during circuit training, which helps muscles to grow. While it

Circuit training can be used to break plateaus.

open



teams, including the NFL, NHL, NBA, WNBA and ABL/NBL affiliates. He is also a presenter for the health and wellness industry. For more information, visit www.clubcoach.net.

Get More Information Online!

If you found this article useful, you can read more about this topic on *Fitness Management's* website. Below is a list of related articles that you can find online:

1. Alternative Cardio Programming: Variety is the spice of retention. By Guy Brown (August 2005). In the category "Group Exercise" from the Library of Articles link in the left menu at www.fitnessmanagement.com, or at www.fitnessmanagement.com/FM/tmpl/genPage.asp?p=/information/articles/library/groupec/altcv0805.html
2. Concurrent Endurance and Resistance Training. By Donna J. Terbizan, Ph.D., FACSM, and Brett A. Dolezal, Ph.D. (June 1999). In the category "Cardiovascular Health" or at www.fitnessmanagement.com/FM/tmpl/genPage.asp?p=/information/articles/library/strength/resist0699.html
3. Cross Training for Fun, Fitness and a Total-Body Workout. By Stephen A. Black, M.Ed., P.T., A.T.C./L., N.S.C.A.-C.P.T. (December 2005). In the category "Group Exercise" or at www.fitnessmanagement.com/FM/tmpl/genPage.asp?p=/information/articles/library/cardio/crosstrain1205.html

is true that performing a long aerobic session will lower the testosterone level and release cortisol (which causes the body to break down muscle tissue), this workout session will not take that long to complete. Therefore, the time required to start this cortisol-releasing process will not be reached.

Finally, since participants move through the workout quickly, they will not have to spend long hours in the fitness center, and will be able to spend more time doing the things they never seemed to have time or energy to do.

A final note

Since circuit training may not target all the muscles in the body (including the heart), it is still best to include normal strength and cardio training routines into your members' programs. This lends itself to periodization methodology, keeping the body balanced, fit and healthy. Circuit training can be used to break plateaus, as well. When members are feeling stale or they are not losing the fat they want, use circuit training to jump-start their metabolism and excitement. Since circuit training can be quite intense, have members start with once a week, adding a session each week until they can perform the circuits three times a week. Any more than this may lead to injury and overtraining. **FM**

Stephen A. Black, M.Ed., P.T., A.T.C./L., N.S.C.A.-C.P.T., CEO of Rocky Mountain Human Performance Center Inc., Boulder, Colo., provides individualized programs for athletes, weekend warriors and post-rehab clients. Black has 20-plus years' experience in the health and wellness industry, and has worked with professional

ASPEN