



Circuit Training: “The Most Scientifically Proven Exercise System”

In today's 24/7/365 eternally plugged-in world, people feel busier and more stressed than ever, and lack of time is most commonly cited as a barrier to exercise. **Circuit training provides an effective option that breaks this barrier and yields significant advantages.**

The American College of Sports Medicine (ACSM) and the American Heart Association (AHA) recommend the following as a minimum for healthy adults under age 65:

- **Do moderately intense cardio 30 minutes a day, 5 days a week**
- OR**
- **Do vigorously intense cardio 20 minutes a day, 3 days a week**
- AND**
- **Do 8-10 strength training exercises, eight to 12 repetitions of each exercise, 2 days a week**

While these well-intentioned guidelines may seem unattainable to some, circuit training is an efficient, effective way to achieve them – and to reap results.

Cardio and strength combined

Developed in 1953 at the University of Leeds in England, traditional circuit training is comprised of 8-12 stations where individuals perform strength-training exercises using a resistance of about 40% to 60% of one-repetition maximum (1RM) for a specific duration (30 seconds to two minutes), with either rest or cardio intervals of 15 seconds to three minutes (or longer) between stations.

Research continually shows that circuit training confers numerous benefits, given that it simultaneously develops cardiovascular fitness and strength. In fact, **according to the prestigious Cooper Institute in Dallas, Texas, circuit training “is the most scientifically proven exercise system. It’s time efficient and incorporates strength, flexibility and cardio in the same workout.”**

Circuit training maximizes the advantages of individual cardio and strength workouts for greater conditioning and valuable psychological benefits. One new, convenient way to circuit train is CROSS CiRCUIT[®], which is available on Octane Fitness standing elliptical cross trainers.

Physiological responses to circuit training

- **Greater cardiovascular endurance**
Numerous studies report that when performed consistently over 8-12 weeks, circuit training can **increase aerobic oxygen consumption and VO2 max**, resulting in greater stamina and overall fitness.
- **Increased muscular endurance and strength**
Resistance training overloads muscles for improved endurance and strength. Studies indicate that **strength gains of 7% to 32%** are evident with circuit training. Strength training is particularly important for women, who lose muscle mass of 1 percent per year in their 30s and 40s, along with people over age 65 to help minimize bone loss.
- **Significant caloric expenditure**
The amount of calories burned per workout depends on its intensity and duration, the exercises selected and the exerciser's body weight. Circuit training has been reported to burn **approximately 5-9 kcal/minute**, however, this number increases significantly when exercisers also perform aerobic intervals. In Octane's CROSS CiRCUIT, for example, heart rates fluctuate between aerobic and anaerobic zones, demanding **more calories than either a traditional steady-state cardio or strength session alone.**
- **Improved body composition and higher metabolism**
Research demonstrates that circuit training **decreases fat mass**, and strength training **increases lean body mass**, which is **more metabolically active** than fat. Routine strength training builds muscles that burn more calories both during exercise and at rest (basal metabolic rate) for a higher metabolism, which helps with weight control.

- *Eliminated plateaus*
According to the Specific Adaptation to Imposed Demand (S.A.I.D.) principle, the body adapts over time to stressors such as exercise. Circuit training delivers continually varied cardio and strength-training challenges that work the body in new ways and **stimulate additional progress and better results.**

Psychological and practical advantages

- *Maximum efficiency*
Combining cardiovascular and strength-training sessions yields a **greater return on the time investment**, with more total work completed in a shorter amount of time. In fact, research shows that circuit training recruits the major muscle groups up to twice more than cycling, and five times more than walking.
- *Renewed motivation*
The inherent variety in circuit training breaks up workouts, which engages exercisers and keeps them working at a higher overall intensity versus going through the motions, or skipping workouts altogether. Greater enjoyment **positively impacts exercise performance and overall adherence.**
- *Valuable variety*
Circuit training is an excellent way to cross train, as it **complements all other workouts** by adding change and interest.
- *Inherent versatility*
No two circuit workouts ever must be the same, as exercisers can **vary cardio modes, resistance tools, exercises and interval duration.** With Octane's CROSS CiRCUIT, incorporating multiple accessories – including stability balls, BOSU Balance Trainers, medicine balls, gliding disks and balance boards – creates **different and progressive challenges.**
- *Equal accommodation*
CROSS CiRCUIT, and circuit training in general, is **easily customized to suit beginners to elite athletes**, so that each can reap rewards and achieve goals. A recent study showed that athletes participating in 10 weeks of circuit training significantly improved sprint agility times and anaerobic endurance scores.

Unique Workouts

Armed with the science behind circuit training, and focused on building better workouts, Octane Fitness created CROSS CiRCUIT as a simple but very effective way to integrate strength training sessions with cardio intervals on the elliptical. Exercisers can develop virtually unlimited routines based on their preferences and goals. CROSS CiRCUIT users report that workouts are more fun, with welcome challenges, valuable progression and visible results.

Conclusion

Scientific evidence demonstrates that circuit training yields a host of physiological and psychological benefits, while simultaneously addressing almost every component of fitness – making it an extremely valuable training modality.

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