

# Circuit Training: Optimal Exercise for People with Chronic Illness

Circuit training is a workout style that combines cardiovascular fitness and resistance training while improving mobility, strength and stamina all in one. A circuit can consist of as few as six stations to as many as 15 based on the goals and pre-training levels. Typically the stations are alternated between muscle groups to allow adequate recovery between exercises. The rest interval between stations should be between 30-90 seconds and 1-3 minutes between circuits. The total number of circuits performed during a training session may vary from two to six depending on your training level (beginner, intermediate, or advanced), your period of training (preparation or competition) and your training objective. Exercises tend to be quick and involve multiple joint movements. When developing a circuit training routine a wide variety of exercises and equipment can be utilized. Much of the equipment is relatively inexpensive and can include surgical tubing, jump rope, your own body weight, dumbbells, medicine balls, physio balls and weight training machines. Besides adding variety to your workout, there are many other benefits of circuit training.

**1. Injury prevention.** By combining different exercise modes, you prevent the same bones, muscle groups and joints from being stressed over and over. As a result, circuit training tends to reduce the likelihood of injury as a result of exercising too much.

**2. Exercise plan adherence.** Circuit training has also been shown in a number of studies to increase an individual's long-term adherence to exercise programs. This is because circuit training relieves some of the monotony of exercise and provides an efficient way to reap the benefits in half the time.

**3. Rehabilitation.** When an injury does occur, circuit training comes to the rescue in two ways. First, it helps you maintain fitness despite being forced to forgo your normal exercise plan. Second, it corrects the cause of the injury. For example, if you injure your shoulder, you probably can't go swimming, but you could continue your cardiovascular training by using a hands-free elliptical machine.

**4. Efficiency.** Circuit training has been shown to recruit the major muscle groups up to twice more than cycling and five times more than walking alone. Major muscles are involved up to 60 percent, with the only exception being the abdominals because their main function is to maintain dynamic balance, stability and posture. Thus, circuit training, which can include cycling or walking, is perhaps the most efficient form of overall exercise. Just be sure to include additional abdominal work.

**5. Appropriate for people of all fitness levels.** One of the most interesting studies on circuit training was published in the February 1998 issue of the

Journal of Sports and Exercise. In this study, scientists used elite runners as subjects, whereas most previous studies had included only average runners. Half of the runners added a cycling-based circuit training component to their routines and their performance drastically increased. The study suggested that circuit training can result in improved performance in moderately trained or well-trained runners, though there was no scientific evidence regarding cross-training elite runners.

**6. Fat Burning.** Thanks to the intensity level and nature of the workout, circuit training is perfect for kick-starting your body's fat burning abilities.

Good beginner exercises

4. Core plank or crunches - 15/30/45 seconds, 10 reps/20 reps/30 reps
5. Step ups - 10 each leg/20 each leg/30 each leg
6. Push ups - 8 reps/15 reps/25 reps
7. Lunges - 10 each leg/20 each leg/30 each leg
8. Calf raises on a step - 8 each leg/15 each leg/25 each leg
9. Shadow boxing - 45 seconds/90 seconds/120 seconds
10. Star jumps - 45 seconds/90 seconds/120 seconds

You can choose to do all 10 exercises without a rest in between or with 10-20 seconds

your abdominals in to protect your lower back.

❖ Next go to dips on a chair. Start by sitting on a stable chair or bench. Lift your bottom off the chair, bend your knees and rest the palms of your hands on the seat. Keeping your back straight, chin down and body close to the chair lower yourself down to a 90-degree angle so your elbows are level with your shoulders. Repeat 10-20 times.

❖ The last exercise in the circuit is a set of core exercises. You can choose between many different types depending on your level. One choice a plank exercise:

❖ Begin in the plank position with your forearms and toes on the floor.

20 lunges and squats. If you usually use weights while doing these in the gym pick a slightly lighter weight than usual and concentrate on making your moves slow and controlled.

❖ Follow this with a set of 10-20 one-arm rows. Place your right hand and knee on a bench. Lean forward - your back should be almost parallel to the floor. Hold a dumbbell in your left hand and start with it hanging straight down to the floor, knuckles facing your thigh. Slowly bend your left elbow and lift the dumbbell. Do not raise your elbow higher than your back. Slowly release.

❖ Follow this with 20 straight-leg or kneeling push-ups, 20 bicep curls and 20 triceps kick-backs. For the kick-backs bend forward so that your back is horizontal. Bend your knees and raise your left elbow until it is level with your back. Holding a weight in your left hand extend your forearm back so that your arm is straight. Remember to tighten your core to protect your lower back. Swap sides.

❖ The last exercise in the circuit is a set of core exercises you can choose between many different types depending on your level. One choice a plank exercise:

❖ Begin in the plank position with your forearms and toes on the floor.

❖ Keep your torso straight and rigid and your body in a straight line from ears to toes with no sagging or bending.

❖ Your head is relaxed and you should be looking at the floor.

❖ Hold this position for 10 seconds to start.

❖ over time work up to 30, 45 or 60 seconds

❖ Or stomach crunches. Lie on your back with your knees bent, hands by the side of your head and elbows out. As you breathe out curl your head, shoulders and upper back off the floor for the count of two then slowly lower back down again.

❖ Cool down and stretch

## References

1) The Benefits of Circuit Training, Exercise Like the Pros Do, Lonnie Soloff

2) Anderson, O (2000) you may (mistakenly) think this training method is old hat. Peak Performance

3) Mackenzie, B (1997) Circuit Training [WWW] Available from: <http://www.brianmac.co.uk/circuit.htm>

## Author:

Kristi Mathieson, RD,LD,CPR,CLT  
New Hampshire Natural Health Clinic  
304 Riverway Place, Bedford, NH 03110  
603-623-6800  
[www.nhnatural.com](http://www.nhnatural.com)

es include push-ups, shoulder presses, back rows, triceps dips, biceps curls, squats, contra lateral limb raises and crunches. A majority of this exercise are performed with body weight only. Executing proper form is an important aspect of your circuit-training exercises. Move through a full range of motion, do not use momentum and make sure to breathe properly. When you are a beginner, start out with 12 to 15 repetitions of each exercise or aim for 30 seconds/set. Slowly work your way up to 20 to 25 reps or 45- to 60-second sets. Use your imagination there are MANY different ways to complete a circuit. Below are a few examples and suggestions.

## Home Circuit Training Exercises

This home circuit suits all levels. Just follow the recommendations for your fitness level (beginner, intermediate or advanced).

1. Jogging on the spot 1min/2mins/3mins
2. Squats (stationary) - 10 reps/20 reps/30 reps
3. Dips - 8 reps/15 reps/25 reps

between each one -the choice is yours. But remember, if your aim is to do the exercises with good form. Limiting your rest will increase the intensity and increase the total amount of calories you will burn. Repeat as many times as necessary to achieve 10/20/30 minutes.

## At home: try doing this circuit 4-6 times.

Start your workout with a short warm-up and stretch. Do star jumps, run on the spot or skip for ten minutes before stretching out your hamstrings, front and inner thighs and calves.

❖ Begin your circuit by stepping up and down on a step or stair quickly (but not so fast that you wear yourself out) for four minutes.

❖ Next, do a set of 10-20 push-ups with your legs stretched out behind you - if you can manage it - or kneeling on all fours.

❖ Now do 10-20 lunges and squats. If you want a more challenging workout, hold small bottles of water or dumbbells during these exercises. Remember it is not speed but precision which counts most here so make sure you keep your back straight and hold

❖ Keep your torso straight and rigid and your body in a straight line from ears to toes with no sagging or bending.

❖ Your head is relaxed and you should be looking at the floor.

❖ Hold this position for 10 seconds to start.

❖ over time work up to 30, 45 or 60 seconds

❖ Or stomach crunches. Lie on your back with your knees bent, hands by the side of your head and elbows out. As you breathe out curl your head, shoulders and upper back off the floor for the count of two then slowly lower back down again.

❖ Cool down and stretch.

## In the gym: try doing this circuit 3-6 times.

❖ Start your program by warming up on a piece of aerobic equipment - such as the treadmill, stationary bike, stepper or rowing machine - for a few minutes then stretch.

❖ The first exercise of your circuit should be five minutes on a different piece of aerobic equipment than you used in the warm-up. Increase the pace a little.

❖ Next complete a set of 10-

