



The **CardioCoach** system measures your heart rate and your oxygen consumption (VO<sub>2</sub>). The more oxygen you can use the greater your fitness level!

It works by analyzing your VO<sub>2</sub> and finding at what heart rate your body crosses its threshold of aerobic and anaerobic intensity. Once your aerobic threshold and anaerobic threshold are measured, your true Target Workout Zones can be found.

## CALORIES BURNED

There is a direct relationship between oxygen consumption and calories burned. Your VO<sub>2</sub> Test measures how many calories you burn when you exercise.

HEART RATE	EXERCISE ZONE	CALORIES PER HOUR
190	Cardio Training Anaerobic	1335
180		1227
170		1119
160		1012
150	Anaerobic Threshold	904
140	Aerobic Threshold	795
130		688
120	Fat Burning (Aerobic)	580
110		473
100		365
90		257
80		235

\*This table shows how many calories per hour your body burns when exercising at various intensity levels. The heart rate at which your anaerobic and aerobic thresholds were detected is also shown.

## Target Workout Zones

The CardioCoach has analyzed your VO<sub>2</sub> Test and has created the following workout zones based on your results. Discuss with your trainer a workout strategy based on your goals and your Target Workout Intensity Zones.

**Low Zone**  
 HR: 88-137  
 C/Hr: 235-763  
 Low

**Moderate Zone**  
 HR: 137-142  
 C/Hr: 763-817  
 Moderate

**High Zone**  
 HR: 142-180  
 C/Hr: 817-1227  
 High

**Peak Zone**  
 HR: 180-192  
 C/Hr: 1227-1357  
 Peak

\*HR = Heart Rate; C/Hr = kcals per hour

### Recovery Heart Rate

Heart Rate	Peak	1 Minute	2 Minute
	192	161 (30%)	142 (49%)

### Cardio Strength

	Start	AeT	AT	Peak
VO <sub>2</sub> (ml O <sub>2</sub> /kg/min)	6.5	21.9	28.7	38.1
Heart Rate (bpm)	88	137	142	192
Calories Per Hour	235	789	1037	1375
Fitness Level	Fair			

AeT = Aerobic Threshold. AT = Anaerobic Threshold

### Coach's Interpretation

Your target heart rate ▶

Recommend testing again by:

### Fitness Level

Note fitness level is based on a VO<sub>2</sub> Max. Refer to fitness level tables on back side of page.

Age	VERY LOW	LOW	FAIR	GOOD	EXCELLENT	SUPERIOR
20-29	<33.0	33.0-36.4	36.5-42.4*	42.5-46.4	46.5-52.4	>52.4

### Stats

Age: 27  
 Gender: Male  
 Weight: 124.8 kg (257 lbs)  
 Height: 185 cm (6 ft 1 in)  
 BMI: 36.3  
 Test Type: Treadmill Test  
 Test ID: 3  
 SN: 10393

Coach:  
 Date:  
 Name:

## FREQUENTLY ASKED QUESTIONS

### What is VO2 Anyway?

VO<sub>2</sub> simply stands for Volume of Oxygen. The CardioCoach measures the volume of oxygen your body consumed at the various intensity levels during your test. The higher the workload you perform, the more oxygen your body requires to metabolize the energy needed. Since there is a direct relationship between oxygen consumption (VO<sub>2</sub>) and Calories burned, the CardioCoach can also determine how many Calories your body is burning at each intensity level.

### Aerobic Threshold (AeT)?

At low intensity activities your heart and lungs can easily supply all of the oxygen your body demands. The intensity level beyond which your body cannot provide all the oxygen needed is your Aerobic Threshold. Above this level anaerobic energy pathways start to operate.

The greater your VO<sub>2</sub> at your Aerobic Threshold, the greater your quality of life. The more you can move - the more you can do!

### Anaerobic Threshold (AT)?

At high levels of intensity your body does not have sufficient oxygen to meet energy demands. Your body then uses anaerobic (without oxygen) energy sources which produce lactic acid. When you exercise above your anaerobic threshold your breathing will increase rapidly. It will be difficult to maintain this intensity level for a long period of time.

## FITNESS LEVEL RESULTS

The maximum rate of oxygen uptake (VO<sub>2</sub>) is called "VO<sub>2</sub> Max". VO<sub>2</sub> Max is the Gold Standard method to measure fitness. Bottom line: a higher max = a higher ability to intensely exercise. For example, Lance Armstrong has a VO<sub>2</sub> Max of 83.8 ml/min/kg. To achieve a high VO<sub>2</sub> MAX, a person must have a fit heart and lungs and significant lean muscle mass that is well conditioned.

The CardioCoach test results show your "Peak" or Maximum Measured VO<sub>2</sub>. If you performed to your maximum effort level then your Maximum Measured VO<sub>2</sub> is your VO<sub>2</sub> Max - the maximum amount of oxygen your body can consume per minute.

Fortunately, VO<sub>2</sub> Max has been well studied and we can compare your results to published values. If you pushed yourself near your maximum level, you can use the tables to rate your level of fitness.

#### MALE - VO<sub>2</sub> MAX Fitness Assessment Criteria: (mlO<sub>2</sub>/kg/min)

AGE	VERY POOR	POOR	FAIR	GOOD	EXCELLENT	SUPERIOR
13-19	0-34.9	35.0-38.3	38.4-45.1	45.2-50.9	51.0-55.9	56.0+
20-29	0-32.9	33.0-36.4	36.5-42.4	42.5-46.4	46.5-52.4	52.5+
30-39	0-31.4	31.5-35.4	35.5-40.9	41.0-44.9	45.0-49.4	49.5+
40-49	0-30.2	30.2-33.5	33.6-38.9	39.0-43.7	43.8-48.0	48.1+
50-59	0-26.0	26.1-30.9	31.0-35.7	35.8-40.9	41.0-45.3	45.4+
60+	0-20.4	20.5-26.0	26.1-32.2	32.3-36.4	36.5-44.2	44.3+

#### FEMALE - VO<sub>2</sub> MAX Fitness Assessment Criteria: (mlO<sub>2</sub>/kg/min)

AGE	VERY POOR	POOR	FAIR	GOOD	EXCELLENT	SUPERIOR
13-19	0-24.9	25.0-30.9	31.0-34.9	35.0-38.9	39.0-41.9	42.0+
20-29	0-23.5	23.6-28.9	29.0-32.9	33.0-36.9	37.0-41.0	41.1+
30-39	0-22.7	22.8-26.9	27.0-31.4	31.5-35.6	35.7-40.0	40.1+
40-49	0-20.9	21.0-24.4	24.5-28.9	29.0-32.8	32.9-36.9	37.0+
50-59	0-20.1	20.2-22.7	22.8-26.9	27.0-31.4	31.5-35.7	35.8+
60+	0-17.4	17.5-20.1	20.2-24.4	24.5-30.2	30.3-31.4	31.5+

VO<sub>2</sub> MAX Tables - Data from Cooper, K. The Aerobics Way. New York, Bantam Books, Inc. 1982.

## UNDERSTANDING YOUR WORKOUT ZONES

As you increased the intensity (workload) during your exercise test, your body responded differently at the various levels of exercise. Your body started out using aerobic energy sources and gradually converted over to anaerobic energy sources. These are different physiological "Zones" of your metabolism and are mostly driven by your heart and lung's ability to provide sufficient oxygen to your body.

The CardioCoach finds these physiological zones and uses your heart rate as a landmark as to where these critical metabolic changes occur. The CardioCoach simplifies the results as your Target Heart Rate Workout Zones.

#### Low Intensity Zone

In this zone your body is using completely aerobic energy sources. This is best for fat burning. Your heart and lungs easily provide the needed oxygen for your activity.

Fat Burning

#### Moderate Intensity Zone

As you increase intensity in this zone your body increases the amount of anaerobic energy needed. Your heart and lungs are more challenged to meet the oxygen demands, you can maintain this level for a long time before becoming fatigued.

Endurance

#### High Intensity Zone

In this zone your body is heavily relying on anaerobic energy sources. You will rapidly build an oxygen debt. You will not be able to maintain this level of exertion for long periods of time.

Cardio Training

#### Peak Intensity Zone

This is your highest intensity level - based on your peak heart rate measured during the test. Effort in this zone will be of a very short duration. For example, a sprint at the end of a run.

Cardio Training

Note: The upper end of the peak and high intensity zones are based off your peak results during the test. If a "sub-maximal" test was performed, the upper end of your High & Peak zones will be lower.

## WHAT TO DO?

If you are working with a trainer or fitness coach, listen to them. Follow their advice without looking for shortcuts. This test provides them with valuable insight into your fitness requirements.

### What Are Your Goals? Lose Weight / Burn Fat

Exercise plays an important role in reducing body fat. Research continues to show that long-duration, low-intensity exercise is best for burning fat. A minimum of 30 minutes 3 times per week is need to see results.

Even though higher intensity workouts burn more calories per minute, they can be counter productive for weight loss.

### Increase Endurance

Your Anaerobic Threshold (AT) represents the maximum intensity level that you can maintain for an extended period of time. Exercising at your Anaerobic Threshold Heart Rate will increase your performance in endurance activities.

### Cardio Training

Short 10 minute intervals of exercising in your High and Peak Intensity zones will aid in improving your cardiovascular fitness.

#### Coach's Interpretation: Your Target Zones

Workout	Target Heart Rate	Duration (Minutes)	Times/Week	Notes
Cardio				
Endurance				
Low Intensity Fat Burn				

#### Workout Plan

Workout	Zone/Workout	Duration (Minutes)	Notes
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

For more information visit [www.korr.com](http://www.korr.com)

©Copyright 2004 - KORR Medical Technologies, Inc / Patents Pending