

The Meaning of the Five Heart Zones

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There is no one-size-fits-all universal training program which fits for any participant in any training program. Rather, exercise must be individually tailored to fit you. And that's just what heart zones' training provides - a completely personalized exercise program that works for all people and all activities. It works for a 55-year-old professional athlete like me, a 70-year old with a family history of heart problems, a 40-year old wanting to improve strength, or an 80-year old who wants to climb to the third floor of a building without puffing. It works for a 20-year-old who never was fit, a 30-year-old who has become more sedentary from too much time in front of a computer, and a 40-year-old who wants to get back to fitness again. It's a one-program-fits-all hearts way toward wellness.

Let's take heart zones training one part at a time and first look at those three words: Heart, Zone, and Training.

HEART

That's easy. Your heart's a muscle; you can strengthen it. It's a use-it-or-lose-it muscle so if you don't do cardiovascular exercise, you'll lose some of the heart's functional ability. It's the most important muscle in your entire body. It should be treated that way.

ZONES

A zone is simply a range of heart beats. Recent research has shown powerful benefits from exercising in several different zones rather than one target zone to get maximum benefit in the least amount of time.

TRAINING

Training is the regime of exercising to achieve a goal. It's different than exercising. When you exercise you are doing it for the joy and benefit of the exercise. When you train, you want to accomplish a goal like get fitter, feel better, improve your health, lower your blood pressure.

You can train smarter and get more benefits if and when you start using the beat of your heart and know the meaning of the numbers.

THE FIVE HEART ZONES

Heart zones are all expressed as a percentage of your maximum heart rate (Max HR). They reflect exercise intensity. By training in each of the five different zones you'll realize five different results. Using your heart beat, you'll set each of these zones at 10% of your Max HR. Here's the new zones chart that shows you exactly what happens in each of the heart zones:

HEART ZONES **THE ZONES CHART** HEART ZONES

ZONE	MAXIMUM HEART RATE	FUEL SOURCE	CALORIES BURNED (Calories/minute)	WORKOUT TYPE*	BENEFITS	HEAT POINTS†	WELLNESS ZONES	INTENSITY MEASUREMENTS			
								LACTATE CONCENTRATION	VO ₂ ‡	RATING OF PERCEIVED EXERTION	VERBAL DESCRIPTION
5 REDLINE RED ZONE	100% ↓ 90%	CARBOHYDRATES	~17 Calories	Plus sprints, sprinting, high speed intervals	Increased lactate tolerance, get fitter	x5	PERFORMANCE ZONE	>8mm	100% ↓ 86%	10 ↓ 8	maximal effort to very, very hard
4 THRESHOLD ORANGE ZONE	90% ↓ 80%		~13 Calories	Time trials, intervals, tempo, hill work	Improved aerobic capacity, lactate clearance, get fitter	x4	FITNESS ZONE	4-8mm	86% ↓ 73%	7 ↓ 5	very, very hard to hard
3 AEROBIC YELLOW ZONE	80% ↓ 70%		~10 Calories	Endurance and steady-state	Increased aerobic capacity, get fitter, optimal cardiovascular training	x3	HEALTH ZONE	3-4mm	73% ↓ 60%	5 ↓ 4	hard to somewhat hard
2 TEMPERATE GREEN ZONE	70% ↓ 60%		~7 Calories	LILO (low intensity, low volume, low recovery and regeneration)	Improved fat metabolism, transportation, basic cardiovascular training	x2	HEALTH ZONE	<2.5mm	60% ↓ 48%	4 ↓ 2.5	moderate hard to very easy
1 HEALTHY HEART BLUE ZONE	60% ↓ 50%		~4 Calories	Warming and cool-down, rehabilitation	Improved cell recovery, stress reduction, blood chemistry	x1	HEALTH ZONE	<2mm	48% ↓ 35%	2.5 ↓ 1	very easy to easy

* Rate in increments, slight overlap between increments. † Lactate is the concentration of lactic acid in the blood. ‡ Approximate for 180lb person, walking or running, 50-200 body fat.

†† Lactate is the amount of lactic acid. ‡‡ VO₂ is the amount of oxygen used. ††† In all zones, approximately 95% of the calories burned are provided by oxygen.

■ amount of protein burned
■ amount of carbohydrates burned
■ amount of fat burned

Read across the top of each of the columns to learn about what happens to your physiology in each of the different zones. Look at the cartoon character Zoner – it’s whistling in Zone 1 and it’s sweating, silent, and serious in Zone 5. Look at the types of workouts because they are different in each of the zones. For more details on each of the five zones, here’s a brief explanation. There’s much more in my book: *The Heart Rate Monitor GUIDEBOOK to Heart Zones Training* (and I urge you to get a copy):

Zone 1 THE HEALTHY HEART ZONE: 50%-60% of your individual Max HR

This is the safest, most comfortable zone, reached by walking briskly, swimming easily, doing any low intensity activity including mowing your lawn. Here you strengthen your heart and improve muscle mass while you reduce body fat, cholesterol, blood pressure, and your risk for degenerative disease. You get healthier in this zone, but not more aerobically fit -- that is, it won't increase your endurance or strength but it will improve your health.

Zone 2 THE TEMPERATE ZONE: 60% to 70% of your individual Max HR.

It's easily reached by going a little faster like increasing from a walk to a jog. While still a relatively low level of effort, this zone starts training your body to increase the rate of fat release from the cells to the muscles for fuel. Some

people have erroneously called this the "fat burning zone" because up to 85 % of the total calories burned in this zone are fat calories. Rather, we burn fat in all zones until you reach your Max Fat_{burning} heart rate. More detail son that in my new book *Fit and Fat: An 8-Week Heart Zones Program*.

Zone 3 THE AEROBIC ZONE: 70%-80% or your individual Max HR

In this zone -- reached by physical activity moderately as an example -- you improve your functional capacity. The number and size of your blood vessels actually increase, your lung capacity and respiratory rate, and your heart increases in size and strength so you can exercise longer before becoming fatigued. You're still metabolizing fats and carbohydrates but the ratio has changed - about a 50-50 rate, which means both are burning at the same ratio.

Zone 4 THE ANAEROBIC THRESHOLD ZONE: 80%-90% of your individual Max HR

This zone is reached by going hard – like physical activity, cycling, and swimming faster. Here you get faster and fitter, increasing your heart rate as you cross from aerobic to anaerobic or training. At this point, your heart cannot pump enough blood and oxygen to supply the exercising muscles fully so they respond by continuing to contract anaerobically. This is where you "feel the burn." You can stay in this zone for a limited amount of time, usually not more than an hour. That's because the muscle just cannot sustain working anaerobically (this means without sufficient oxygen) without fatiguing. The working muscles protect themselves from overwork by not being able to maintain the intensity level. For fit people, their Max Fat_{burning} heart rate is in this heart zone.

Zone 5 THE REDLINE ZONE: 90% to 100% of your individual Max HR.

This is the equivalent of physical activity or exercising all out and is used mostly as an "interval" training regiment -- exertion done only in short to intermediate length bursts. Even world-class athletes can stay in this zone for only a few minutes at a time. It's not a zone most people will select for exercise since working out here hurts, there is an increased potential for injury but you burn lots of calories, mostly carbohydrates. Zone 5 is high, hot, hard intensity level.

Physical activity must fit you as an individual and so must your heart zones. I'm convinced and so are thousands of others who train using this heart-based approach that it will lead to your integration of your mind, your body, and your spirit into a wellness exercise program that works. You'll begin to see positive benefits as you feel more energy with less stress. I predict you'll also feel a real boost to your self-esteem that will make it fun to keep going. Train with your

smart heart and your monitor in the five heart zones to maximize your time and your results.