



Octane
FITNESS™

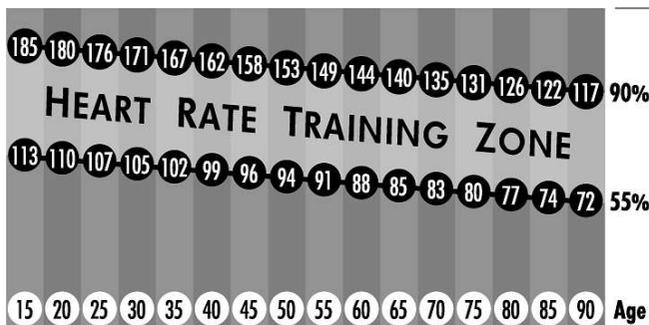
Heart Rate Training

Simply the Smartest, Most Effective Way to Train

Heart Rate Training Maximizes Performance

During exercise, the heart beat, or pulse rate, is a valuable, objective gauge of intensity level—the more vigorous the workout, the faster the heart must pump to deliver oxygen-rich blood to hard-working muscles. Research shows that exercising in target heart rate zones is the best way to improve cardiovascular health while preventing under-training which minimizes results, as well as over-training and risking injury or burnout. Essentially, it amounts to smarter, more effective workouts.

The American College of Sports Medicine (ACSM) recommends that cardiovascular exercise be performed at 55% to 90% of one's theoretical maximum heart rate (TMHR), according to one's goals and fitness level. TMHR is calculated as 220-age.



Typically, most people are able to sustain approximately 65-85% TMHR during a standard exercise session. So for a 40-year-old, TMHR is 180 beats per minute (220-40), and corresponding workout intensity levels range from 117-153 bpm (65-85%).

Technology boosts heart rate monitoring

Heart rate can be measured manually by palpating an artery and counting the beats. But even simpler is using a heart monitor, which consists of a strap worn around the chest that picks up the heart's electric signal and a wristband receiver that displays the number of beats. Quality monitors are nearly as accurate as clinical EKGs.

The first heart rate monitor was developed in 1977 as a training tool for the Finnish National Cross Country Ski Team. During the 1980s, heart rate monitoring became more popular with athletes, as they saw its effectiveness in enhancing their performance. Endurance athletes like five-time Ironman Triathlon winner Dave Scott attributes his best performances to the "routine scrutiny" of his monitor. And numerous other elite runners, competitive Tour de France cyclists and even Olympic athletes have attested to better overall results due to heart rate training.

Fitness enthusiasts caught on as well and began donning them during the 1990s. According to Edmund R. Burke, Ph.D., former professor, Olympic coach and author of numerous health and fitness books, including *Precision Heart Rate Training*, "Training and competing with a heart rate monitor is like having a portable, full-time coach attached to your body."

Advances in fitness equipment

Premium cardiovascular machines feature technology that facilitates accurate heart rate monitoring using telemetry or hand sensors. With telemetry, exercisers wear a chest strap, and the machine wirelessly picks up the heart's signal and displays the heart rate on the console. Some manufacturers also offer hand sensors that exercisers grip to get a heart rate reading. But because muscle contraction interference can cause erratic readings with hand sensors, telemetry is generally more accurate.

Some fitness equipment also offers pre-designed programs that take the guesswork out of heart rate training by keeping exercisers at predetermined heart rate zones. For example, in a workout that requires 80% TMHR, the machine picks up the heart rate from the exerciser's chest strap and automatically varies resistance levels so the user maintains the proper intensity.

The advantage is that exercisers don't have to continually monitor and readjust to ensure that they are at the appropriate level because the machine does it for them. These programs also provide valuable variety, enhance motivation and help improve performance.



HeartLogic™ Intelligence breakthrough

While heart rate interactive programs are beneficial, Octane Fitness' exclusive HeartLogic™ Intelligence on its total-body elliptical cross-trainers has created breakthroughs in training. It has set the standard for the most efficient, effective pre-designed cardiovascular exercise available today.

HeartLogic™ Intelligence workouts offer more than just steady-state workouts where a consistent TMHR is maintained throughout, such as 65% or 80%. Included here are interval heart rate programs, which vary intensity levels within the workout to incinerate calories and boost fitness quickly. Studies have shown that interval training, in which intensity changes throughout such as from 65% to 85%, is the best way to maximize caloric expenditure and enhance endurance.

A push of a button transforms ordinary workouts into results-driven, motivating experiences with the following programs:

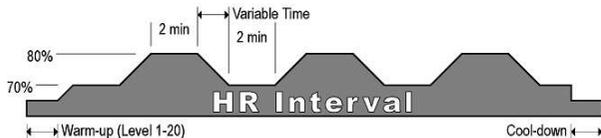
Fat Burn – Steady state workout at 65% TMHR to optimize the amount of fat burned versus carbohydrates. Great for beginners, recovery or low intensity days.



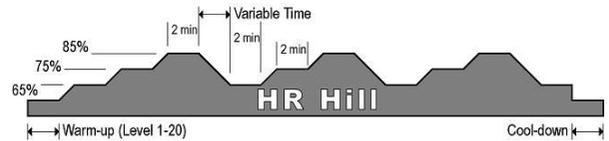
Cardio – Maximizes cardiovascular benefits by challenging exercisers to maintain a steady state of 80% TMHR throughout. Good to burn calories and develop endurance.



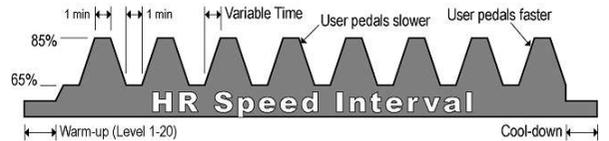
Heart Rate Interval – Consists of two-minute intervals of 70% and 80% TMHR. After two minutes, resistance increases automatically to bring exerciser to next interval; when target heart rate is achieved, a new two-minute interval begins. Exercisers can adjust individual intensity at any time during the workout. Builds endurance and helps boost caloric expenditure.



Heart Rate Hill – Series of two-minute hill intervals that increase from 65% to 75% to 85% TMHR. After two minutes, resistance increases or decreases to bring exerciser to next interval; when target heart rate is reached, a new interval begins. Exercisers can adjust individual intensity at any time during the workout. Ideal for all individuals looking for results and a challenging workout that flies by.



Heart Rate Speed Interval – Combines one-minute intervals of 65% and 85% TMHR with changing speeds; when going to 85%, exercisers are prompted to increase pace to 60 rpm; going down to 65% requires 40 rpm. Exercisers can adjust individual intensity at any time during the workout. The one-minute sessions enable exercisers to blast through more intervals with greater variety for a fast-paced, rigorous workout. The ultimate training challenge for athletes, race preparation or an all-out workout.



Octane Fitness programs recommend target heart rates based on the standard formula of 220-age, but uniquely, they facilitate ultimate customization by enabling exercisers to personalize these numbers during any part of any workout. So, for instance, in the example of the 40-year-old, 65% TMHR is 117 bpm and 85% TMHR is 153 bpm. If he feels particularly ambitious, he can bump up either number at any time; conversely, if he needs to lighten up, he is able to decrease these targets.

In fact, the Now-Zone™ feature allows exercisers while in any program to instantly lock into their current heart rate; so if an exerciser wants maintain their current heart rate, the push of the Now-Zone™ button is all they need.

Although heart rate programming can be complicated on some fitness machines, Octane Fitness makes it easy. Exercisers need only to program their ideal workout once and save it. The My Quick Start feature allows them to hit one button and go— with all their customized information saved in the machine.



And, for even more all-important feedback, Octane Fitness products display current heart rate, target heart rate and percentage of maximum heart rate—freeing individuals from having to compute math equations in their head. In addition, the console shows time spent in the target heart rate zones, providing valuable data at the exerciser's fingertips.

Results-driven workouts

Octane Fitness elliptical cross-trainers afford exercisers efficient, unique heart rate interactive workouts and customization options unavailable on other cardiovascular machines. Smart fitness enthusiasts will take advantage of the exclusive HeartLogic™ Intelligence technology—and reap significant benefits from optimal workouts that use the precision of heart rate training and the effectiveness of interval training.

REFERENCES

- American College of Sports Medicine, Guidelines for Exercise Testing and Prescription, Sixth Edition. Lippincott, Williams & Wilkins, Baltimore, 2000.
- Burke, Edmund. R., Ph.D., Editor, Precision Heart Rate Training. Human Kinetics: Champaign, Ill., 1998.
- McArdle, William D., F.I. Katch and V.L. Katch, Exercise Physiology, Third Edition. Lea & Febiger, Philadelphia, 1991.
- Polar USA, www.polarusa.com
- Rippe, James M. with P. Amend, The Exercise Exchange Program. Simon & Schuster, 1992.

For more information, contact Octane Fitness at www.octanefitness.com or 763-757-2662

