

# HEART RATE CALCULATIONS

## TRAINING RANGES

**Aerobic Zone:** 180-age in beats per minute or below. Even casual movement like walking delivers an aerobic training effect by activating the low-intensity aerobic energy producing enzymes. Maximum aerobic heart rate is the upper end, represented by Maffetone formula of 180-age in beats per minute.

**Black Hole zone:** Frequent sustained cardiovascular workouts that exceed 180-age (even for just a small portion of the workout) characterize a “chronic cardio” workout pattern. Black Hole workouts are too strenuous to promote aerobic efficiency and fat adaptation, instead promoting carbohydrate dependency and burnout.

Unfortunately, this is the default zone for fitness enthusiasts both casual and competitive. Occasional brisk workouts at heart rates above aerobic are acceptable and beneficial when balanced with adequate rest and disciplined aerobic workouts.

**85-90 percent of maximum:** Zone of high intensity workouts such as intervals, tempo workouts, strenuous group classes, competitive sports, and sprint workouts. Best results come from infrequent efforts lasting 20 minutes or less. Leaving a bit in the tank on even the most intense workouts (i.e., 90 percent instead of 100 percent) is advised, since the stress impact of going to maximum is not worth the minimal fitness benefit.