IRON HORSE TRAINING

Target Heart Rate

The Karvonen Formula
This is a heart rate reserve formula and it's one of the most effective methods used to calculate training heart rate. The formula factors in your resting heart rate, therefore, you'll need to determine your resting heart rate by doing the following:

- Prior to getting out of bed in the morning, take your pulse on your wrist (radial pulse) or on the side of your neck (carotid pulse).
- Count the number of beats, starting with zero, for one minute. If you don't have a stop watch or a second hand in your bedroom, you can measure the time by watching for the number to change on a digital alarm clock. Find your pulse and start counting when the minute number changes the first time, stop counting when it changes again.
- To help assure accuracy, take your resting heart rate three mornings in a row and average the 3 heart rates together.

Another element in finding your training heart rate zone is determining the intensity level at which you should exercise. As a general rule, you should exercise at an intensity between 50% - 85% of your heart rate reserve. Your individual level of fitness will ultimately determine where you fall within this range. Use the following table as a guide for determining your intensity level:

Beginner or low fitness level . . .50% - 60%
Average fitness level . . . . . 60% - 70%
High fitness level . . . . . 75% - 85%

Now that we've determined and gathered the information needed, we can pull the information together in the Karvonen Formula:

220 - Age = Maximum Heart Rate
Max Heart Rate - Rest. Heart Rate x Intensity + Rest. Heart Rate = Training Heart Rate

For example, Sam is 33 yrs old, has a resting heart rate of 75 and he's just beginning his exercise program (his intensity level will be 50% - 60%.) Sam's training heart rate zone will be 131-142 beats per minute:

Sam's Minimum Training Heart Rate:
220 - 33 (Age) = 187
187 - 75 (Rest. HR) = 112
112 x .50 (Min. Intensity) + 75 (Rest. HR) = 131 Beats/Minute

Sam's Maximum Training Heart Rate:
220 - 33 (Age) = 187
187 - 75 (Rest. HR) = 112
112 x .60 (Max. Intensity) + 75 (Rest. HR) = 142 Beats/Minute

Periodically, take your pulse during your exercise session to gauge your intensity level. Typically, the easiest location for taking a pulse is on the side of your neck, the carotid pulse. Be sure not to press too hard on the carotid artery or you'll get an inaccurate reading. Count the number of beats, always beginning with zero, for 6 seconds (then multiply by 10), or for 10 seconds (then multiply by 6) to get the number of times your heart is beating per minute. If your pulse is within your training heart rate zone, you're right on track! If not, adjust your exercise workload until you get into your zone.

Using the Karvonen Formula to calculate your target heart rate

Calculate: 220 - _____ age = _____Maximum Heart Rate (MHR)

Worksheet:

_____Maximum Heart Rate - _____Resting Heart Rate (use in first blank on each line)

_____x .55 = _____+ _____RHR = Target for **zone 1 recovery _____**

_____x .65 =_____ + _____RHR = Target for **zone 2 low end aerobic _____**

_____x .75 = _____ + _____RHR = Target for **zone 3 aerobic _____**

_____x .85 = _____+ _____RHR = Target for **zone 4 anaerobic _____**

_____x .95 = _____+ _____RHR = Target for **zone 5 all out effort _____**