

**Table 1: Heart Rate Guidelines During the Training Year.**

Type of Training	Example of Workout	Heart Rate (% max)	Time of Year	Purpose
Aerobic Capacity (Endurance)	Distance running: 5-10 miles	70-75%	Base phase/Preseason & during entire training year as recovery days between harder workouts & unloading days before competitions	<ul style="list-style-type: none"> <li>- Improve aerobic endurance</li> <li>- Muscle cell adaptation</li> <li>- Enhance economical functioning of metabolic system</li> </ul>
Lactate Threshold	20-minute tempo run	80-90%	Late base phase/Early competitive phase	<ul style="list-style-type: none"> <li>- Raise lactate threshold</li> <li>- Elevate intensity of running at which athlete begins to feel discomfort</li> </ul>
Maximum Oxygen Consumption/Aerobic Power (VO <sub>2</sub> max)	Long intervals (3-5 min.) with short rest periods	95-100%	Early to mid-competitive phase	<ul style="list-style-type: none"> <li>- Improve VO<sub>2</sub> max</li> <li>- Increase heart's stroke volume</li> <li>- Increase cardiac output</li> </ul>
Anaerobic Glycolysis	Short intervals (30-90 sec.) with long rest periods	100%+	Mid- to late-competitive phase	<ul style="list-style-type: none"> <li>- Improve anaerobic endurance</li> <li>- Improve muscles' ability to tolerate and buffer high concentrations of lactic acid</li> <li>- Increase lactate removal</li> </ul>
ATP-CP (Phosphagen) System	Very short intervals (5-15 sec.) @ close to top speed with long rest periods	—	Mid- to late-competitive phase	<ul style="list-style-type: none"> <li>- Increase muscle power production</li> <li>- Improve speed by recruiting fast-twitch muscle fibers</li> </ul>