

Training Document:

Warm-up and Cool-down by Gale Bernhardt

Although some workouts within the training plans specify a warm-up or cool down time, most do not. For each and every workout, include some warm-up and cool down time. How much time to include depends on your current level of fitness, the type of workout you are about to complete, length of workout and the intensity of the main set of the workout.

A good warm-up permits a gradual increase in metabolic processes and prevents premature accumulation of lactic acid. At low levels, lactic acid is not a problem. As you continue to increase your intensity, the body increases energy production, relying more heavily on anaerobic metabolism (energy produced without oxygen.) More reliance on anaerobic metabolism means the lactate level in your blood increases. When you sprint, you can feel your muscles flood with lactate and your muscles seem to burn from the intensity.

Athletes with higher levels of fitness require more warm-up than those with lower levels of fitness. For example, cyclists accustomed to riding three to four hours on a regular basis require more warm-up time than those accustomed to riding a total of one hour.

Cool down or a gradual decrease in intensity prevents blood from pooling in your extremities and an overly rapid drop in blood pressure. This reduces the likelihood of lightheadedness and fainting. A cool down helps prevent muscle spasms and cramping and speeds the recovery process. Cool down should be sufficient to reduce heart rate; but not so long as to delay recovery.

You also need to warm up and cool down at races. Events that are short, very intense and anaerobic require more warm-up than long, mostly aerobic (energy produced with oxygen) events.

For more detailed information on energy production and exercise intensity, see Chapter 1 of *Training Plans for Multisport Athletes*.

If the training plan has a specific swim workout posted on the online system, typically the warm-up and cool down are not included in the description, only the main set is listed. It is up to the athlete to include a warm-up and cool down appropriate for his or her fitness level.

Some of you may swim with a masters program and that's great. On several of the plans, a workout intensity is suggested for your masters session. If you swim on your own and need ideas for swim workouts, check out *Workouts in a Binder for Triathletes*.