



# Performance Cycling

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## The 4 Principles of Training

In the inaugural issue of Performance Cycling, I introduced the 3 elements of cycling performance: training, nutrition and recovery. Training consists of the activities we perform to facilitate the physiological adaptation process (i.e., performance improvement). This includes riding the bike, lifting weights and cross-training activities such as running and swimming. In this issue, I describe 4 key principles that allow you to maximize the effectiveness of your training. These include *periodization*, *progressive overload*, *specificity* and *individuality*.

1. **Periodization** is the process of dividing an annual training plan into specific time blocks, where each block has a particular objective and provides the body with different types of stress. This creates some periods of training that are harder and some that are easier (to allow for recovery). It also facilitates the development of different

energy systems during various phases of training (e.g., aerobic, anaerobic, creatine phosphate). Most importantly, periodization is the most effective way to facilitate the *training effect*. The training effect consists of changes in your cardiopulmonary and muscular systems that result in greater endurance on the bike.

A basic premise of periodization is that training should progress from the general to the specific. For example, many annual training programs for competitive cyclists are divided into four stages: **base**, **build**, **race** and **transition**. The *base* period is the most general of these stages. During this training phase, the cyclist focuses on enhancing aerobic endurance and increasing general strength. This often includes 'off-the-bike' activities such as weight training. As the cyclist progresses to the *build* phase, more time is spent on the bike performing workouts that simulate race condi-

tions. Of course, the *race* phase involves actual race competition, the most specific element of training possible. Once the competitive season has ended, the cyclist enters the *transition* stage where training activities once again become more general (e.g., cross-training workouts such as running or swimming). Most significantly, each of these phases elicit varying degrees of stress on the body's energy, cardiopulmonary and neuromuscular systems, which helps facilitate performance improvement.

2. **Progressive Overload** is the process of gradually increasing stresses to the body's cardiopulmonary and muscular systems over a period of time to facilitate physiological adaptation. This is done through the effective application of the F.I.T.T. Model (frequency, intensity, time and type). For example, to develop your aerobic endurance, you may start with a long ride of 20 miles and increase the distance



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It is with great pleasure that I introduce my Cycle-Max Coaching program. Cycle-Max Coaching is a one-on-one, virtual coaching process that will maximize your cycling performance. It is based on the idea that there are three primary elements to effective performance: *training*, *nutrition* and *recovery*. The primary goal of Cycle-Max Coaching is to facilitate the integration of these elements in a way that allows you to achieve your cycling goals. In other words, through the Cycle-Max Coaching process, we work together to develop a systematic training program that incorporates effective nutritional practices and allows for sufficient recovery. To learn more about Cycle-Max Coaching, visit my website at [www.holmesfitness.com](http://www.holmesfitness.com) and request a FREE CONSULTATION to begin the process that will maximize your cycling performance.

## The 4 Principles of Training (continued)

### About the Author

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by 2 miles each week until you can comfortably ride 40 miles. In this instance, you have improved your aerobic capacity by progressively overloading “time” (also referred to as training volume or duration). Similarly, you can improve your speed on the bike by progressively overloading “intensity”. For example, you could perform intervals at 85% of your maximum heart rate. You might begin with five, 3-minute intervals with 4-minutes of easy spinning between each interval for a total of 15 minutes of high intensity riding. You could then add 30 seconds to each interval per week (a total of 2.5 minutes added per week). Four

weeks later you would have increased your high intensity riding to 25 minutes.

3. **Specificity** simply means that your training program should resemble the activity you want to perform. While cross-training is great after the race season, the best way to improve your cycling performance is to ride a bike. Likewise, specificity applies to the type of riding you want to emphasize. For example, if you want to ride long distances, then your training regimen should include a lot of long rides. If you want to ride really fast, then your workouts should include a lot of high intensity training.

4. **Individuality** refers to the fact that your training program should be uniquely suited to your goals, strengths, weaknesses and life constraints. As you are probably aware, there are dozens of cycling books and magazines that provide hundreds of training programs and workouts. While these resources can be very helpful, none of these programs are designed specifically for you. They don’t take into consideration your unique traits, barriers and objectives. To maximize your cycling performance, your training regimen must be designed with your specific needs in mind.