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Periodization: Our Expert Guide On How To Plan Your Training Season

Breaking your training plan into cycles can lead to serious results.

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Amber Sayer, MS, CPT, CNC
SENIOR FITNESS AND NEWS EDITOR
REVIEWED BY KATELYN TOCCI

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Whether you are a long-distance runner, cyclist, triathlete, powerlifter, or some other type of strength athlete, you likely have specific goals for different target races and competitions throughout your training season or the year at large.

For athletes who play other types of sports, a training program requires not only sports-specific training but also general fitness and conditioning.

In all of these cases, your training plan has to include different phases of training that are designed to help yield specific physiological adaptations that will help continually progress your fitness level without risking overtraining.

Coaches and personal trainers often use a method of training program design called *periodization.*

A periodized training program includes different cycles, or training phases, in the build-up to one or multiple competitions so that you can

be at peak performance level when it matters.

In this guide, we'll cover the core principles of periodized training, different approaches to program design, the key benefits of periodization, and practical examples for building your own plan.

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What Is Periodization?

Periodization is a type of training program design that involves building in different training phases or blocks into the complete program.

Rather than having each training session continually build in intensity or duration, a periodized training plan ebbs and flows in the training load and the specific goals or physiological adaptations that are being targeted.

For example, a marathon training plan that demonstrates block periodization would include different training blocks. The athlete would start with an aerobic base-building phase with primarily distance runs to build endurance.

Over this training block, the training volume would increase as aerobic conditioning improves.

Then, the following training block would start incorporating high-intensity workouts to build speed and anaerobic fitness. There might be some lactate threshold workouts, and even the incorporation of some VO2 max intervals on the track or race pace workouts.

This build phase would also increase the training load by adding distance to the long run.

The final training block in preparation for a race day would be the taper period, where the training volume decreases to prevent overtraining and because further training adaptations will not have time to take hold before race day.

Then, after the marathon, there would be a period of time of relative recovery to allow the body to recover before the next buildup began.

The concept of periodization for training programs was first implemented by Soviet athletes in the 1952 and 1956 Summer Olympics.

The term periodization was then defined in the mid-1960s by Russian physiologist Leo Matveyev after analyzing the programs of these athletes.

Matveyev then further developed this concept as a systematic approach that can be applied to sport-specific goals to achieve optimal performance for athletes of different sports.

Periodized training programs generally start with a high-volume, low-intensity phase and then shift to the next phase to lower volume and high intensity with more technique-based training sessions, as described by Dr. Stone in the Journal of Strength and Conditioning Research.

Sports medicine professionals[1] consider general adaptation syndrome and progressive overload as examples of training effects that support the benefits of the periodization training model.

General adaptation syndrome (GAS) refers to a series of defined stages of physiological adaptations or changes your body goes through in response to chronically applied stress.

General adaptation syndrome was first identified and defined by Hans Selye[2] in 1936, who further developed the model with three stages of general adaptation syndrome: the Alarm Reaction stage, the Resistance stage, and the Exhaustion stage.

What Are The Cycles In A Periodized Training Plan?

Periodization has different levels, from the gross to the more granular, built into the design of the training plan.

The Macrocycle

The macrocycle is **the largest segment of training** in a plan, typically defined as the "training season."

It generally has a build-up for optimal or peak performance for a single competition.

The Mesocycle

A mesocycle is a **block of training or a smaller segment** within the larger macrocycle.

For example, if you are following an 18-week marathon training plan, the macrocycle is the full 18-week plan, and there might be several 4 to 6-week mesocycles within the macrocycle training program.

The purpose of a mesocycle is to focus more on a specific goal, skill, or training adaptation, such as aerobic base building, speed endurance, or maximal speed.

The Microcycle

Microcycles are programmed within the mesocycle.

For example, in a 4 to 6-week mesocycle wherein you are increasing training volume, there might be a one-week microcycle where you step down in volume to support recovery and reduce the risk of overtraining and mental burnout before building back up.

The long run might be shorter, and there might be a couple of miles knocked off the warm-up, cool-down, or recovery run distances.

The Training Session

A training session is an isolated workout or individual training day.

How Does Periodization Training Work?

In a broad sense, the primary training variables that go into program design include the following:

- **Frequency:** how often training sessions or workouts occur
- **Training volume or load:** For running, this includes mileage, and for strength training, the number of reps and sets, as well as the number of exercises per workout and the amount of weight lifted for the repetitions of each exercise.
- **Intensity:** The overall difficulty of the training
- **The amount of rest and recovery** built into the training plan, both in terms of within a given workout between sets of an exercise or intervals with running, as well as within a training week and within the training phase or training cycle.

What Is The Difference Between Linear And Nonlinear Periodization?

Linear periodization increases the training variables weekly, whereas nonlinear periodization, also called undulating periodization, might increase one variable and then decrease another.

For example, a powerlifter might use a linear periodization model to increase training intensity over the 8-week training block to increase strength in the target muscle groups.

A bodybuilder might use an undulating periodization model or daily undulating to manipulate the reps and sets as well as the muscle groups targeted in training sessions, backing off and ramping up to maximize the hypertrophy stimulus for muscle fibers.

Should I Follow A Periodized Training Plan?

As a certified personal trainer with 15 years of experience, I was introduced to the concept of periodization years ago for weight training programming aimed at achieving strength gains, building muscle, and helping Olympic or powerlifting athletes reach maximal strength and hypertrophy.

As I began studying to become a certified running coach, I discovered that the same periodization training principles can be applied to design training phases within a comprehensive program for runners aiming to train and compete in multiple races throughout the year.

Ultimately, I find that using a periodized plan works well for the majority of athletes, from beginners who are trying to build up their aerobic fitness and strength gains simultaneously to competitive runners who want to race a couple of half marathons or marathons per year.

Generally, periodization is one of the training principles that is difficult for beginners to implement themselves, which is why working with a personal trainer, CSCS, or running coach is recommended.

However, if you want to implement basic linear periodization or loose concepts of training cycles into your training plan yourself, think about your training goals and the specific adaptations you need for peak performance, as well as how long you have to prepare.

For distance runners, you should have a base building block.

Training load in terms of volume and intensity should gradually build throughout the macrocycle, with a couple of step-back weeks.

The final weeks of the training cycle should maintain intensity but decrease in mileage or training volume for optimal recovery while keeping your neuromuscular system sharp.

Here at Marathon Handbook, we have marathon training plans written by running coaches for all abilities. Check them out for your next training cycle:

> *Free Marathon Training Plans For All Abilities*

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Amber Sayer, MS, CPT, CNC
SENIOR FITNESS AND NEWS EDITOR

Amber Sayer is a Fitness, Nutrition, and Wellness Writer and Editor, as well as a NASM-Certified Nutrition Coach and UESCA-certified running, endurance nutrition, and triathlon coach. She holds two Masters Degrees—one in Exercise Science and one in Prosthetics and Orthotics. As a Certified Personal Trainer and running coach for 12

years, Amber enjoys staying active and helping others do so as well. In her free time, she likes running, cycling, cooking, and tackling any type of puzzle.

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