



# Strength and Conditioning Fundamentals

## Rest and Recovery

### *The Forgotten Training Component*

Keith E. Cinea, MA, CSCS,\*D, NSCA-CPT

**T**raining is a key component for any athlete. As an athlete, you understand how improved strength, power, or whatever parameter you are working on will benefit you in your sport. You also understand that training will help you improve in these areas to allow you to take your performance in the sport to the next level. The question is, when do all the sets and repetitions pay off, when do the adaptations occur? These adaptations occur during recovery, which is why recovery is such a vital component to your training. However, often times, recovery is not seen as important. In reality, the bottom

line is that without proper recovery, your body will not achieve all the potential benefits from training.

So how do you determine how much recovery time you need? The amount of recovery time required between workouts depends on several variables. These variables include: training history, training intensity, volume, and program goals.

As more years of training are accumulated, less recovery time is needed because the body has adapted to the training. So beginners require more recovery time than experienced athletes. Beginners should train with 48 hours of recovery

between strength training sessions. A program with this type of frequency lends itself nicely to a Monday, Wednesday, Friday design (see table 1).

More experienced athletes require higher intensities and volumes to continue seeing gains with training. As training experience, intensity, and volume increases, so should recovery time. As a result experienced athletes may train with 72 hours of recovery between workouts of the same muscle group.

This is the key to building more time into workout sessions. Beginners only require 48 hours of recovery between workouts, and they are most likely performing full body workouts. The advanced athlete requires more frequency, intensity, and volume to achieve their goals, while working with a larger recovery period. So their workouts are divided or split so that opposing muscle groups or body parts are targeted on consecutive days.

For example, a common split is to perform upper body exercises on Monday and Thursday and lower body exercises on Tuesday and Friday. This provides four training days per week. Although each area is only targeted twice per week versus the three times per week with the beginners program, more time is available to train each area (see table 2). Now there is more time in each training session since only half of the body is targeted that day. This way more exercises, or higher volumes and intensities, can be used. Additionally, longer rest periods can be used in between sets.

**Table 1. Sample Beginner Workout with 48 hours Rest**

Monday	Tuesday	Wednesday	Thursday	Friday
Bench Press	Recovery Day	Bench Press	Recovery Day	Bench Press
Squat	Recovery Day	Squat	Recovery Day	Squat
Row	Recovery Day	Row	Recovery Day	Row
Shoulder Press	Recovery Day	Shoulder Press	Recovery Day	Shoulder Press
Leg Curl	Recovery Day	Leg Curl	Recovery Day	Leg Curl
Lat Pull Down	Recovery Day	Lat Pull Down	Recovery Day	Lat Pull Down
Triceps Extension	Recovery Day	Triceps Extension	Recovery Day	Triceps Extension
Bicep Curl	Recovery Day	Bicep Curl	Recovery Day	Bicep Curl

This four-day split provides 72 hours of recovery between upper body exercises. Additionally, it will provide 72 hours of recovery between lower body exercises. This longer recovery time is vital for adaptations to occur with advanced programs.

Program goals also affect recovery. If you are in a phase of training where the goal is to improve power (such as pre-season), then the training intensity should be very high. As a result of high training intensity, recovery should be high as well. But during the season when maintenance is the goal, not improvement, intensity and volume should decrease. Consequently, less recovery is needed when the goal is maintenance. Although it does little good to recover so rapidly from a workout that may not be repeated for a week, it does play a part when complete recovery from the workout is needed by game day.

### Guidelines for Recovery

Recovery from working out is important, but it does not mean doing nothing. One option is an active recovery. For a beginner who is not performing strength training on Tuesday or Thursday, a light cardiovascular workout or recreational game may be an option. The key is to keep the intensity light, and not go all out during the active recovery workout. The body still needs to continue recovering from the previous workout, and does not need the cumulative stress of an additional intense workout.

Other things to consider during recovery are sleep, nutrition, and hydration. All these things tend to come into play during recovery. If you are not drinking enough

**Table 2. Sample Advanced Workout with 72 hours Rest**

Monday	Tuesday	Wednesday	Thursday	Friday
Bench Press	Leg Press	Recovery Day	Bench Press	Leg Press
Row	Leg Curl	Recovery Day	Row	Leg Curl
Shoulder Press	Leg Extension	Recovery Day	Shoulder Press	Leg Extension
Lat Pull Down	Calf Raise	Recovery Day	Lat Pull Down	Calf Raise
Triceps Extension		Recovery Day	Triceps Extension	
Biceps Curl		Recovery Day	Biceps Curl	

water, getting enough sleep, or eating the right things, your body may not completely recover from the workout. Although you may not be in the weight room on your recovery day, you need to be mentally aware that you are recovering, and act accordingly.

### Optimizing Recovery

If recovery is too short, you may reach a state called overtraining. During overtraining performance decrements occur, along with feelings of fatigue and staleness. On the other end of the spectrum, if too much recovery time is used, your maximum possible potential at that time will not be realized. Worse yet, in a completely terrible program you may detrain, or lose the attributes you are trying to improve.

Recovery is a key component of any training program, but not one that many individuals consider. The weight room is important, but all the changes you are driving for need time to occur. The only time these changes can occur is during your recovery. It may not be the most exciting time of training, but it is just as important as every set and repetition you perform. So be sure when designing your program to include appropriate recovery periods. ▲

### About the Author

*Keith E. Cinea, MA, CSCS,\*D, NSCA-CPT, is the Educational Programs and Products Coordinator for the NSCA and Editor of NSCA's Performance Training Journal. Before taking this position, he was the Strength Training Coordinator for the Central Denver YMCA, and worked as an adjunct faculty member at Front Range Community College in Westminster, Colorado. Keith earned his BA and MA from the University of Northern Colorado.*