



**TRI-PHASE TRAINING**  
**SPECIALIZED HYPERTROPHY PROGRAM**  
**Volume 2**

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**Team Scivation**

# SCIVATION

W W W . S C I V A T I O N . C O M

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# **Tri-Phase Training— Specialized Hypertrophy Program Vol. 2**

By: Derek Charlebois B.S. CPT

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## Introduction to Tri-Phase Volume 2

The Tri-Phase Training Program has been completed by hundreds of people and the results have exceeded my expectations. People are gaining between 10-25 pounds of lean mass in 9-12 weeks. Some of you might be saying “12 weeks? I thought the Tri-Phase Training Program was only 9 weeks?” After releasing the 9-week Tri-Phase Training Program, I put some of my clients on a 12-week version of the Tri-Phase Training Program which, like the 9-week program, produced great results. Due to these results, I decided to release a Tri-Phase Training Program Vol. 2 that contains both the 9-week and 12-week Tri-Phase Programs along with additional details to help you gain lean muscle.

Tri-phase Training is a 3-phase workout program designed to add overall mass to your body. Each phase targets a specific training variable. The Tri-Phase Training Program is based on data from scientific literature as well as anecdotal feedback and results. This routine has not only been validated by science, but has also been notarized by myself and many of my clients who have added quality lean mass to their bodies.

I recommend doing Tri-Phase Training while consuming a hypercaloric a.k.a. bulking diet. Once you have completed the Tri-Phase Training program can start back over at Phase 1 if you desire. Because each phase of the Tri-Phase Training Program focuses on a different training stimulus, each phase is essentially a different training program. Therefore, there is no need to start a different training program once you complete the Tri-Phase Training Program, you can start right back over at week one. With that said, on to HYPERTROPHY!

## Chapter 1—What is Skeletal Muscle Hypertrophy?

Skeletal muscle hypertrophy is an increase in a muscle's cross-sectional area (CSA). Skeletal muscle hypertrophy is governed by a host of hormones and growth factors, including satellite cells, testosterone, IGF-I, IL-1 & IL-6, to name just a few. An increase in muscle CSA is accomplished by:

- Increase in the size of myofibrils.
  - Incorporation of new contractile proteins into the Actin and Myosin filaments.
  - Incorporation of new proteins to the structural filaments.
- Increase in Sarcoplasm.
- Increase in the connective tissues surrounding the muscle, myofibrils, and muscle fibers.

An increase in CSA can be accomplished by two forms of hypertrophy: sarcomere and sarcoplasmic.

### **Sarcomere Hypertrophy—Incorporate of New Proteins in Actin and Myosin**

Sarcomere hypertrophy is an enlargement of a muscle fiber as a result of an increase in sarcomere number and size. Sarcomeres, which contain the contractile proteins actin and myosin, are the “functional units” of myofibrils. The incorporation of new contractile proteins into Actin and Myosin filaments increases a muscle fiber's size and ability to produce force, commonly referred to as strength. These new proteins must be created through the process of protein synthesis.

### **Sarcoplasmic Hypertrophy—Increase in Sarcoplasm and Connective Tissue**

Sarcoplasmic hypertrophy is an increase of the sarcoplasm (muscle fiber semifluid cytoplasm) and noncontractile proteins. The fiber's ability to produce force does not increase from sarcoplasmic hypertrophy.

The emerging theory behind skeletal muscle hypertrophy is that a bout of exercise causes protein degradation or damage (myotrauma), which leads to a period of enhanced protein synthesis or supercompensation when the bout ceases (Zatsiorsky, 1995). This increase in protein synthesis not only repairs the damage from the bout of exercise, but also makes the muscle stronger and therefore more resistant to future damage.

***Mechanical Stimuli → Cell Damage → Cell ‘Clean Up’ → Cell Repair → Cell Growth***

We are not going to discuss the steps involved in skeletal muscle hypertrophy, just how to stimulate it with weight training workouts. This book will first outline a 9-week workout program designed to add overall mass and then go into muscle specific hypertrophy workouts.

## Chapter 2—Tri-Phase Training Program Overview

In my opinion, consistently adding weight to the bar—lifting heavier weights and/or completing more reps—is the most effective way to add muscle and grow and should be your primary concern. The number of exercises, sets, rep ranges, etc. you use should be secondary to progressing with the loads you lift. With that said, it is impossible to add weight to the bar EVERY workout. If it were, everyone would be benching 800 pounds and squatting over a 1,000 pounds. Therefore one must adjust their workouts in order to keep progressing.

When designing a weight training routine, there are three main variables that can be altered in order to change the type of growth stimuli you get from the routine. These variables are volume, intensity, and frequency.

- Volume = sets \* reps.
  - The more sets and reps the greater the volume of a given workout.
- Intensity = percentage of your 1-RM max.
  - If your max bench is 315 then lifting 295 is more intense than 225 because it is a greater percentage of your 1-RM.
- Frequency = number of times you work a muscle in a given time span.
  - Most people use 1 week as the time span.

These variables must be balanced in order for you to keep progressing. If you do too much you will not be able to recover sufficiently and then your strength and muscle gains will slow. I am also going to throw another term out there—training density. The density of a workout is the sets \* reps \* load. You should strive to increase the density of each workout by increasing the load lifted, which should be done for every phase of training.

It is helpful to break your training up into phases, which is called periodization. One phase might focus on increasing the volume of your routine while the next phase might focus on increasing the frequency of your routine. The idea is to stimulate your muscular system in a different way with each phase in order to promote more growth. As I said in the beginning of this section, no matter what variable you are focusing on during a given training phase, your primary focus should be progressing each and every workout by lifting a greater load or completing more reps. If you deadlifted 315 for 8 reps for your last workout, you want to beat that the next workout. This can be done by adding weight to the bar (i.e. 10 lbs.) or completing more reps (i.e. 10 reps since you got 8 last time). You must progress in order to grow!

With this information in mind, I have created a 3-phase mass program. Each phase focuses on one of the three training stimuli variables and is designed to promote a steady state of progression. The Tri-Phase Training Program is setup as a 9-week and 12-week program. The 9-week program is more demanding than the 12-week program as there is less of a deload between each phase. With the 12-week program, you have an additional week at the beginning of each phase that is less intense than the other weeks. For example, in the 9-week program, the first week in phase 1 is 3 sets per exercise but in the 12-week program the first week is 2 sets per exercise. So you are beginning at a less

demanding starting point (less sets) and build your way up. The 12-week program would be better suited than the 9-point program for those that feel they do not have the best recovery or become easily burned out. So basically, the 12-week program gives you an extra deload week. If you feel you will do better with the extra recovery time then go with the 12-week program. Let's get into the programs!

## Chapter 3—Tri-Phase 9-Week Training Program

### Phase 1—Volume

The goal of Phase 1 is to increase the volume (number of sets) each week. In addition to adding sets each week, you should always strive to lift a greater load each workout.

- Week 1 = 3 sets per exercise.
- Week 2 = 4 sets per exercise.
- Week 3 = 5 sets per exercise.

Rest time = 90 seconds between sets.

Workout 1	Back+Traps
Workout 2	Chest+Shoulders
Workout 3	Legs
Workout 4	Arms

#### **Back+Traps**

Deadlift	3-5 X 6-10
Pull-Up	3-5 X 6-10
Bent Over Row	3-5 X 6-10
BB Shrug	3-5 X 6-10
DB Shrug	3-5 X 6-10

#### **Chest+Shoulder**

Bench Press	3-5 X 6-10
Incline DB Press	3-5 X 6-10
Dips	3-5 X 6-10
Military or DB Press	3-5 X 6-10
DB Side Lateral	3-5 X 6-10

#### **Legs**

Squats	3-5 X 6-10
Stiff Leg Deadlift	3-5 X 6-10
Leg Extension	3-5 X 6-10
Leg Curl	3-5 X 6-10
Lunges	3-5 X 6-10

#### **Arms+Calves**

BB Curl	3-5 X 6-10
Close Grip Bench	3-5 X 6-10
Skull Crusher	3-5 X 6-10
DB Curl	3-5 X 6-10
Standing Calf Raise	3-5 X 6-10
Seated Calf Raise	3-5 X 6-10

The rep range for Phase 1 is 6-10, which means you want to get at least 6 reps but no more than 10 reps. If you cannot get 6 reps then the weight is too heavy. If you can get more than 10 reps then the weight is too light. Once you can complete 10 reps with a given weight, you should increase the weight for the next set. For example, if you can squat 225 lbs. for 10 reps the increase the weight to 235 lbs.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

## Phase 2—Intensity

The Goal of Phase 2 is to lift a near maximal load for low reps. There will be no changes in the number of sets you complete, just the load you lift.

- Week 1 = 6-RM
- Week 2 = 4-RM
- Week 3 = 2-RM

Rest time = 2-3 minutes between sets.

Workout 1    Upper Body A  
 Workout 2    Lower Body A  
 Workout 3    Upper Body B  
 Workout 4    Lower Body B

Upper Body A		Upper Body B	
Bench Press	3 X 2-6	Incline Press	3 X 2-6
Bent Over Row	3 X 2-6	Pull-Up	3 X 2-6
Military Press	3 X 2-6	DB Shoulder Press	3 X 2-6
BB Shrug	3 X 2-6	DB Shrug	3 X 2-6
Close Grip Bench	3 X 2-6	Skull Crusher	3 X 2-6
BB Curl	3 X 2-6	DB Curl	3 X 2-6
Lower Body A		Lower Body B	
Squats	3 X 2-6	Deadlift	3 X 2-6
Stiff Leg Deadlift	3 X 2-6	Leg Press	3 X 2-6
Seated Calf Raise	3 X 2-6	Standing Calf Raise	3 X 2-6

The rep range for Phase 2 is 2-6, but unlike Phase 1, you are going to shoot for a given rep number for each workout. The goal for week one is to use a weight that allows you to complete 3 sets of 6 reps; week two is to complete 3 sets of 4 reps; week three is to complete 3 sets of 2 reps. Each week, you will be lifting a heavier load. For Deadlift it may be something like:

- Week 1 = 315 for 3 X 6
- Week 2 = 335 for 3 X 4
- Week 3 = 355 for 3 X 2

If you prefer, you can do arms after legs on the lower body day since the volume is lower on leg day. Some people may prefer to do all of the upper body in one workout because they find leg training more taxing or just because of personal preference. I leave it up to each individual to decide whether they prefer to train arms in the upper body workouts or the lower body workouts.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

### Phase 3—Frequency

The goal of Phase 3 is to hit each muscle more frequently than Phase 1 & 2.

Workout 1	Whole Body A	2 X 4-6	Rest = 2 mins
Workout 2	Whole Body B	2 X 6-10	Rest = 90 sec
Workout 3	Whole Body C	2 X 10-12	Rest = 30 sec
Workout 4	Weak Point		

Each workout uses different exercises and different rep ranges, though the same exercises can be used for each workout if one prefers. The goal is to do two sets of an exercise for each muscle group. Here is an example of how this workout could be set up:

<u>Muscle</u>	<u>Workout A (Mon)</u>	<u>Workout B (Wed)</u>	<u>Workout C (Fri)</u>
Quad	Squats	Leg Press	Leg Extension
Ham	Stiff Leg Deadlift	Lying Leg Curl	Seated Leg Curl
Calf	Seated Calf Raise	Standing Calf Raise	Donkey Calf Raise
Chest	Flat Press	Incline Press	Decline Press or Dips
Back	Bent Over Row	Pull-up	Seated Cable Row
Delt	Military Press	DB Side Lateral	Cable Lateral
Trap	Barbell Shrug	DB Shrug	Low-Pulley High Row
Tris	Close Grip Bench	Skull Crusher	Tricep Pressdown
Bis	Barbell Curl	DB Curl	Cable Curl

#### *Weak Point Training (Saturday)*

The weak point training day is here so each individual person can pick what they need to work on. If you need to bring up your back and calves, then work your back and calves. If you need to bring up your chest and biceps, then work your chest and biceps. An example Weak Point day for chest and biceps would be:

Incline BB Press	3 X 4,8,12
Flat DB Press	3 X 4,8,12
DB Curls	3 X 4,8,12
Hammer Curls	3 X 4,8,12

It is common for people to have underdeveloped calves, forearms, and posterior (rear) delts. The weak point training day would be perfect to work on these muscles. An example routine for these weak points would be:

Calves	Standing Calf Raise	3 X 4,8,12
	Seated Calf Raise	3 X 4,8,12
Forearms	BB Forearm Curl	3 X 4,8,12
	DB Forearm Curl	3 X 4,8,12
Rear Delts	DB Rear Lateral	3 X 4,8,12
	Reverse Pec Dec	3 X 4,8,12

At this point in your training you should have an idea of what exercises you need to do in order to bring up your weak points. Because of the low volume of training during the week (a total of 6 sets per muscle group), there should be a low chance for overtraining to occur even though you are hitting your weak muscle group very frequently.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

## ***Week 10***

After nine weeks of intense training your body may be pretty “beat up.” Therefore, week 10 should be a deload or recovery week. A deload week is a week of less than maximal training. During a deload week, I recommend keeping your reps in the higher rep ranges (8-15 reps) and not taking your sets to failure. A recovery week is a week completely off of training. This off time will help your body recover and refresh you for your upcoming training weeks. Whether you do a deload week or take a week off will depend on how you feel after week 9. If you feel burned out or have lost your motivation in the gym, then a full week off will do you good. If you don’t feel burned out, but rather just a little fatigued, a deload week might be all you need. After your deload week or week off, you can restart the Tri-Phase Training Program at phase 1.

## Chapter 4—Tri-Phase 12-Week Training Program

### Phase 1—Volume

The goal of Phase 1 is to increase the volume (number of sets) each week. In addition to adding sets each week you should always strive to lift a greater load each workout.

- Week 1 = 2 sets per exercise.
- Week 2 = 3 sets per exercise.
- Week 3 = 4 sets per exercise.
- Week 4 = 5 sets per exercise.

Rest time = 90 seconds between sets.

Workout 1	Back+Traps
Workout 2	Chest+Shoulders
Workout 3	Legs
Workout 4	Arms

#### **Back+Traps**

Deadlift	2-5 X 6-10
Pull-Up	2-5 X 6-10
Bent Over Row	2-5 X 6-10
BB Shrug	2-5 X 6-10
DB Shrug	2-5 X 6-10

#### **Chest+Shoulder**

Bench Press	2-5 X 6-10
Incline DB Press	2-5 X 6-10
Dips	2-5 X 6-10
Military or DB Press	2-5 X 6-10
DB Side Lateral	2-5 X 6-10

#### **Legs**

Squats	2-5 X 6-10
Stiff Leg Deadlift	2-5 X 6-10
Leg Extension	2-5 X 6-10
Leg Curl	2-5 X 6-10
Lunges	2-5 X 6-10

#### **Arms+Calves**

BB Curl	2-5 X 6-10
Close Grip Bench	2-5 X 6-10
Skull Crusher	2-5 X 6-10
DB Curl	2-5 X 6-10
Standing Calf Raise	2-5 X 6-10
Seated Calf Raise	2-5 X 6-10

The rep range for Phase 1 is 6-10, which means you want to get at least 6 reps but no more than 10 reps. If you cannot get 6 reps then the weight is too heavy. If you can get more than 10 reps then the weight is too light. Once you can complete 10 reps with a given weight, you should increase the weight for the next set. For example, if you can squat 225 lbs. for 10 reps, then increase the weight to 235 lbs.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

## Phase 2—Intensity

The Goal of Phase 2 is to lift a near maximal load for low reps. There will be no changes in the number of sets you complete, just the load you lift.

- Week 1 = 8-RM.
- Week 2 = 6-RM.
- Week 3 = 4-RM.
- Week 4 = 2-RM.

Rest time = 2-3 minutes between sets.

Workout 1    Upper Body A  
 Workout 2    Lower Body A  
 Workout 3    Upper Body B  
 Workout 4    Lower Body B

Upper Body A		Upper Body B	
Bench Press	3 X 2-8	Incline Press	3 X 2-8
Bent Over Row	3 X 2-8	Pull-Up	3 X 2-8
Military Press	3 X 2-8	DB Shoulder Press	3 X 2-8
BB Shrug	3 X 2-8	DB Shrug	3 X 2-8
Close Grip Bench	3 X 2-8	Skull Crusher	3 X 2-8
BB Curl	3 X 2-8	DB Curl	3 X 2-8
Lower Body A		Lower Body B	
Squats	3 X 2-8	Deadlift	3 X 2-8
Stiff Leg Deadlift	3 X 2-8	Leg Press	3 X 2-8
Seated Calf Raise	3 X 2-8	Standing Calf Raise	3 X 2-8

The rep range for Phase 2 is 2-6, but unlike Phase 1, you are going to shoot for a given rep number for each workout. The goal for week one is to use a weight that allows you to complete 3 sets of 8 reps; week two is to complete 3 sets of 6 reps; week three is to

complete 3 sets of 4 reps; week four is to complete 3 sets of 2 reps. Each week you will be lifting a heavier load. For Deadlift it may be something like:

- Week 1 = 315 for 3 X 8
- Week 2 = 335 for 3 X 6
- Week 3 = 355 for 3 X 4
- Week 4 = 375 for 3 X 2

If you prefer, you can do arms after legs on the lower body day since the volume is lower on leg day. Some people may prefer to do all of the upper body in one workout because they find leg training more taxing or just because of personal preference. I leave it up to each individual to decide whether they prefer to train arms in the upper body workouts or the lower body workouts.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

### Phase 3—Frequency

The goal of Phase 3 is to hit each muscle more frequently than Phase 1 & 2.

Workout 1	Whole Body A	2 X 4-6	Rest = 2 mins
Workout 2	Whole Body B	2 X 6-10	Rest = 90 sec
Workout 3	Whole Body C	2 X 10-12	Rest = 30 sec
Workout 4	Weak Point		

Each workout uses different exercises and different rep ranges, though the same exercises could be used for each workout if one prefers. The goal is to do two sets of an exercise for each muscle group. Here is an example of how this workout could be set up:

<u>Muscle</u>	<u>Workout A (Mon)</u>	<u>Workout B (Wed)</u>	<u>Workout C (Fri)</u>
Quad	Squats	Leg Press	Leg Extension
Ham	Stiff Leg Deadlift	Lying Leg Curl	Seated Leg Curl
Calf	Seated Calf Raise	Standing Calf Raise	Donkey Calf Raise
Chest	Flat Press	Incline Press	Decline Press or Dips
Back	Bent Over Row	Pull-up	Seated Cable Row
Delt	Military Press	DB Side Lateral	Cable Lateral
Trap	Barbell Shrug	DB Shrug	Low-Pulley High Row
Tris	Close Grip Bench	Skull Crusher	Tricep Pressdown
Bis	Barbell Curl	DB Curl	Cable Curl

*Weak Point Training (Saturday)*

The weak point training day is here so each individual person can pick what they need to work on. If you need to bring up your back and calves, then work your back and calves. If you need to bring up your chest and biceps, then work your chest and biceps. An example Weak Point day for chest and biceps would be:

Incline BB Press	3 X 4,8,12
Flat DB Press	3 X 4,8,12
DB Curls	3 X 4,8,12
Hammer Curls	3 X 4,8,12

It is common for people to have underdeveloped calves, forearms, and posterior (rear) delts. The weak point training day would be perfect to work on these muscles. An example routine for these weak points would be:

Calves	Standing Calf Raise	3 X 4,8,12
	Seated Calf Raise	3 X 4,8,12
Forearms	BB Forearm Curl	3 X 4,8,12
	DB Forearm Curl	3 X 4,8,12
Rear Delts	DB Rear Lateral	3 X 4,8,12
	Reverse Pec Dec	3 X 4,8,12

At this point in your training you should have an idea of what exercises you need to do in order to bring up your weak points. Because of the low volume of training during the week (a total of 6 sets per muscle group), there should be a low chance for overtraining to occur even though you are hitting your weak muscle group very frequently.

### ***Week 13***

After nine weeks of intense training your body may be pretty “beat up.” Therefore, week 13 should be a deload or recovery week. A deload week is a week of less than maximal training. During a deload week I recommend keeping your reps in the higher rep ranges (8-15 reps) and not taking your sets to failure. A recovery week is a week completely off of training. This off time will help your body recover and refresh you for your upcoming training weeks. Whether you do a deload week or take a week off will depend on how you feel after week 12. If you feel burned out or have lost your motivation in the gym, then a full week off will do you good. If you don’t feel burned out, but rather just a little fatigued a deload week might be all you need. After your deload week or week off, you can restart the Tri-Phase Training Program at phase 1.

\*\*\*We recommend lifting on Mon, Wed, Fri, Sat or Tuesday, Thurs, Sat, Sun.

\*\*\*We want you to try to get a full day of rest between each workout if possible, especially during phase 3.

## Chapter 5—Tweaking the Tri-Phase Program

The most common questions I get with regards to the Tri-Phase Training Program are “Can I add this exercise?” and “Can I substitute that exercise for this exercise?” The Tri-Phase Training Program is setup how I feel is optimal for most people. But what I think is optimal for most people may not be optimal for you. If you think you need to add in another exercise for a specific muscle group, then do it. If you want to substitute Flat DB Press for Bench Press, then do it. If you want to switch the order of a couple exercises, go for it. Adding an exercise or substituting an exercise for another is fine, but if you start changing the principles of the program then you are no longer doing the Tri-Phase Training Program.

I have gotten emails from people asking if they can combine The Tri-Phase Training Program with another program and do them both at the same time. Sure you can do this, but you are no longer doing the Tri-Phase Training Program. I setup the Tri-Phase Training Program to allow for consistent progression in strength and size gains. When you start throwing other variables the program, you are changing the progression of the program.

I highly recommend that you run the Tri-Phase Training Program exactly as it is laid out before you start trying to tweak the program. After completing the entire program, you will have an understanding about how your body responds to each phase and the program as a whole. At that point if you feel you need to tweak the program, you will know exactly what you need to tweak.

## **Chapter 6—Ab Training during the Tri-Phase Training Program**

In the original Tri-Phase Training Program I did not list any abdominal training. The reason for this is mainly because people tend to do their own things when it comes to ab training. In addition, if you are squatting and deadlifting heavy along with doing the other exercises in this program, then your abs are going to get worked HARD! If you wish to do direct ab training, I recommend training abs two times a week as follows.

### Ab Workout #1

Decline Crunches 3 X 8-12

Back Extensions 3 X 8-12

### Ab Workout #2

Lying or Hanging Leg Raises 3 X 8-12

Torso Twist 3 X 8-12

With these exercises you are hitting your entire core: abs, obliques, and lower back. I recommend doing 8-12 reps for abs, which means you are most likely going to have to hold some weights and do weighted ab exercises. Some people believe that doing weighted ab exercises will lead to big, blocky, extended abs. I do not agree with this belief at all.

## **Chapter 7—Cardio during the Tri-Phase Training Program**

Endurance A.K.A. cardiovascular training improves the heart's ability to pump blood and increases oxygen uptake into cells. A "fit" person also burns more fat at rest and during exercise than an unfit person. Bodybuilders use cardiovascular training mainly as a means to increase caloric expenditure thereby increasing fat loss or decreasing fat gain. This chapter will address one cardio strategy bodybuilders can do while trying to gain lean mass or during any developmental stage based on both scientific literature and anecdotal feedback.

### **Low-Moderate Intensity Cardio on Weight Training Days**

As stated in the intro, bodybuilders primarily use cardio as a means to increase their caloric expenditure (Cardiovascular training has a TON of other health benefits, but we will not touch on those benefits here). The use of low-intensity cardio, done either pre or post weight training, allows one to burn more calories while not hampering recovery. In fact, low-intensity cardio done post-workout may even enhance recovery due to increased blood flow and nutrient delivery. Low-intensity cardio is not as strenuous on the body as high-intensity cardio or high-intensity interval training (HIIT). It would be very hard for someone to complete a HIIT session pre weight training as it would decrease your performance when lifting weights or to complete the session post weight training as you will already be fatigued.

We want to keep the body healthy and injury free. If you get injured, then your workouts will suffer or cease altogether. Therefore, I feel it is more practical to perform low to moderate intensity cardio on weight training days. Now, one could perform their cardio separate from their weight training, but for most that would mean two trips to the gym, which is impractical; Hence my recommendation to perform cardio pre or post weight training.

Whether you choose to do your cardio pre or post weight training is a personal preference. Remember, your main goal is to hit it hard in the weight room. If doing cardio pre weight training decreases your performance, then it would be better for you to do it post workout. If you find that you are too tired to do cardio post weight training or simply find you become too bored and do not finish your cardio sessions, it would be better for you to do your cardio pre weight training.

### **High-Intensity/High-Intensity-Interval Training on Non-Weight Training Days**

High-intensity cardio stresses both the aerobic and anaerobic energy systems. The anaerobic energy system is what is stressed during weight training. Putting too much stress on the anaerobic system and hampering recovery is one reason why I do not recommend performing weight training and HIIT on the same day. Obviously running at 6 mph will burn more calories than running at 3 mph, but one has to balance their activities to allow for proper recovery.

There are two main types of high-intensity cardio: Continuous and Interval Training. Continuous high-intensity cardio would be running at a high speed on the treadmill or elliptical machine for a long duration (i.e. 5+ minutes). Interval training involves alternating periods of work and rest (or lower levels of work). For example, running a 100 meter sprint then walking back to the start, resting, then repeating could constitute HIIT. HIIT is more intense than high-intensity continuous cardio and much more intense than low-intensity cardio.

Now it is time to create a program and to put it into action.

### **Weight Training and Cardio Programs**

The following two programs would be ideal for someone trying to add lean mass:

Monday: 45-60 minutes Weight Training followed by 20-30 minutes Low-Intensity Cardio

Tuesday: 45-60 minutes Weight Training followed by 20-30 minutes Low-Intensity Cardio

Wednesday: **OFF**

Thursday: 45-60 minutes Weight Training followed by 20-30 minutes Low-Intensity Cardio

Friday: 45-60 minutes Weight Training followed by 20-30 minutes Low-Intensity Cardio

Saturday: **OFF**

Sunday: Some much needed **REST!**

\*\*\*Note: As you lose weight and your fitness level improves you will most likely have to increase you duration and intensity of your cardio sessions.

### **OR**

Monday: 45-60 minutes Weight Training

Tuesday: 45-60 minutes Weight Training

Wednesday: 15-30 minutes of High-Intensity Cardio on the Elliptical Machine

Thursday: 45-60 minutes Weight Training

Friday: 45-60 minutes Weight Training

Saturday: HIIT—Sprints: Ten 100 meter sprints

Sunday: Some much needed **REST!**

\*\*\*Note: As you lose weight and your fitness level improves you will most likely have to increase you duration and intensity of your cardio sessions.

As bodybuilders, weight training is your primary concern. You do not want to do too much cardio and impair your recovery from weight training. Whether trying to gain muscle or lose fat, cardio should be done. The exact amount will vary by your goal, fitness level, and ability to recover.

## Chapter 8—Nutrition for the Tri-Phase Training Program

I recommend following a hypercaloric diet while on the Tri-Phase Training Program. In order to gain lean muscle, you need sufficient calories. It is hard to lose fat and gain lean mass at the same time, so I recommend focusing on gaining lean mass with little to no fat gain. My diet recommendations can be found at [www.scivationbooks.com](http://www.scivationbooks.com) and include:

- Bulking for Ectomorphs
- Bulking for Mesomorphs
- Bulking for Endomorphs
- The Lean Mass Diet
- The CHA Diet

All of these diets work and work well. The key is finding which diet is optimal for you. If you are a “hardgainer” then go with *Bulking for Ectomorphs*. If you gain both muscle and fat fairly easy then go with *Bulking for Mesomorphs* or *The Lean Mass Diet*. If you gain fat very easily or want a very lean bulk then go with *Bulking for Endomorphs* or *The CHA Diet*.

I highly recommend going to [www.scivationbooks.com](http://www.scivationbooks.com) and checking out our diets and finding what is ideal for you.

## **Chapter 9—Workout Nutrition/Supplementation**

### **Supplementation to Decrease Fatigue during Exercise**

Fatigue is defined as “The decreased capacity or complete inability of an organism to function normally because of excessive stimulation or prolonged exertion (dictionary.com).” With regards to exercise, fatigue could be considered the point where your performance has decreased or you can no longer perform. Examples of fatigue in relation to exercise would be:

- Inability to perform another rep during a set of bench press
- Inability to continue running during a 5k race
- Inability to maintain peak velocity during a 100m sprint

One can prolong the time until fatigue by giving their body substrates/nutrients pre-workout. We are going to examine the metabolic causes of fatigue during exercise and discuss how precise supplementation can decrease the onset of fatigue during exercise, allowing you to train more intensely.

### **Causes of Fatigue during exercise**

Newsholme et al. (1992) proposed that there are at least five metabolic factors that can cause fatigue during exercise:

- Increase in plasma tryptophan:BCAA concentrations
- Decrease in muscle phosphocreatine levels
- Hypoglycemia (low blood glucose levels)
- Muscle glycogen depletion
- Proton (H<sup>+</sup>) accumulation in muscles

Reference: Newsholme, 1992

Anyone of these metabolic factors of fatigue can cause your workout performance to suffer. We will examine each of these metabolic factors and then address how to overcome them through supplementation.

### **Plasma Ratio of Tryptophan:BCAA**

5-hydroxytryptamine (5-HT) levels in the brain are believed to be a contributing factor to fatigue. Transport of the amino acid tryptophan, the precursor for 5-HT, across the blood brain barrier (BBB) is the rate limiting step in 5-HT synthesis. Therefore, increased plasma tryptophan levels can lead to fatigue. The Branched-Chain-Amino-Acids (BCAA) are transported across the BBB by the same carrier as tryptophan. During exercise the plasma ratio of Tryptophan:BCAA increases (tryptophan increases and BCAA decreases), leading to fatigue.

## **Muscle Phosphocreatine Levels**

The body needs a continuous supply of energy to both perform and survive. All of the body's energy requiring processes use the potential energy stored within the bonds of adenosine triphosphate (ATP). The phosphocreatine (PCr) system is an anaerobic (does not require oxygen), alactic (does not produce lactic acid) system that rapidly restores ATP levels.

While this reaction is very rapid, it has a low capacity, meaning it cannot produce a tremendous amount of energy. Therefore, it is in greatest demand during high-intensity, short duration exercise, such as resistance training and sprints. The maximum energy able to be yielded from this reaction occurs after about 10 seconds. After those 10 seconds, energy for ATP resynthesis must be obtained from stored nutrients. Because resistance training heavily relies on the PCr system for energy production, depletion of phosphocreatine levels can decrease performance (i.e. the number of reps you can complete).

## **Hypoglycemia**

Hypoglycemia is low blood glucose levels caused by a low carbohydrate intake or excessive insulin secretion (insulin causes glucose [carbs] in the blood to be stored) and is commonly experienced during exercise. When blood glucose levels drop below normal levels during exercise one often becomes fatigued. This is due to glucose being a primary fuel during exercise, especially high-intensity exercise. Hypoglycemia can be overcome by consuming adequate dietary carbohydrates and maintaining stable insulin/blood sugar levels both before you workout and while you workout.

## **Muscle Glycogen Depletion**

Glycogen is glucose stored in the body in the form of glucose chains. These chains can contain hundreds to thousands of glucose molecules. The glycogen in our bodies is created from the glucose and other nutrients we consume in our diets. This glucose becomes "trapped" in the liver and muscles, where it is synthesized and stored for later use. The liver can hold around 100 grams of glycogen, while muscle can store around 325 grams. The amount of unstored glucose circulating in the blood is only around 15 to 20 grams (Katch and McArdle, 1988) (Powers and Howley, 2001).

The glycogen stored in the liver is released, when needed, to be used in the production of ATP. The glycogen stored in skeletal muscle is used to produce ATP for that muscle to use. Low glycogen levels have been shown to cause decreased intensity, mental focus, and performance during endurance exercise while endurance performance increases when sufficient glycogen is present (Pizza, 1995). Like hypoglycemia, muscle glycogen levels can remain elevated by consuming adequate dietary carbohydrates and maintaining stable insulin/blood sugar levels.

## **Proton (H<sup>+</sup>) accumulation in Muscle**

During exercise, blood and skeletal muscle pH levels may become acidic due to hydrogen ion (H<sup>+</sup>) accumulation, which is termed metabolic acidosis. In order to stabilize an acidic pH level the body must neutralize the excess acids. The two main ways the body does this is by taking calcium (and other minerals) from bones and glutamine from skeletal muscle. Both of these corrective mechanisms have negative consequences for the body.

Skeletal muscle contains the body's greatest glutamine stores. Glutamine binds to H<sup>+</sup> to create ammonium, which is excreted from the body. In the face of metabolic acidosis and elevated H<sup>+</sup> levels, breakdown of skeletal muscle and glutamine release is increased and can lead to muscle protein loss in addition to causing fatigue. The build-up of H<sup>+</sup> in the blood and skeletal muscle is the cause of the burning sensation you feel during exercise (i.e. high rep leg extensions).

Now that we have a basic understanding of the metabolic factors causing fatigue during exercise we can discuss which supplements can be used to delay the onset of fatigue and improve performance.

## **Supplementing to Decrease Fatigue during Exercise**

The most important thing one can do to decrease fatigue during exercise is consume adequate dietary macronutrients (protein, carbs, and fat) and get enough rest/recovery time. Once this is done, supplementation of the following supplements can be used to delay fatigue and enhance performance.

- BCAA
- Creatine
- Citrulline Malate
- Beta-Alanine

\*\*\*Note there are other viable supplements that could be used, but this article will focus on these four supplements.

## **Branched Chain Amino Acids (BCAA)**

The BCAA (leucine, isoleucine, and valine) are different from the other 17 amino acids in that they are primarily metabolized in skeletal muscle (Layman, 2003) and metabolized at a much lower rate in the liver (Norton, 2005). Studies show that BCAA ingestion during exercise delays fatigue due to limiting the amount of tryptophan that can cross the BBB (Bromstrand, 2006). In addition to dietary intervention, BCAA supplementation has been shown to spare muscle glycogen during exercise (Bromstrand, 2006).

Fatigue and protein loss can be diminished by supplementing with BCAA, which increases de novo synthesis of glutamine inside skeletal muscle, allowing H<sup>+</sup> to be removed from the muscle (Houston, 2001). We see that BCAA supplementation can

delay the onset of fatigue by overcoming three of the five metabolic causes of fatigue: increase in plasma tryptophan:BCAA concentrations, muscle glycogen depletion, and proton (H<sup>+</sup>) accumulation in muscles.

## **Creatine**

Creatine supplementation is used to supply the body with more creatine, increasing the body's capacity for phosphocreatine and ATP resynthesis through the PCr system. Phosphocreatine depletion is one of the metabolic factors leading to fatigue. If you can increase the amount in creatine in your muscles, your muscles should have more creatine to use in the resynthesis of phosphocreatine, delaying the onset of fatigue.

Research has shown creatine monohydrate supplement to decrease ATP loss during intense anaerobic performance while at the same time increasing work performed. This enhancement in anaerobic performance from creatine monohydrate supplementation has been shown in both men and women (Tarnopolsky, 2000). Skeletal muscle has a limited storage of creatine. Therefore supplementing with creatine increases your ability to form ATP and therefore increases the available energy for exercise (Casey et al. 1996 & 2000).

## **Citrulline-Malate**

Citrulline-Malate has been shown to increase the rate of oxidative ATP production during exercise and the rate of phosphocreatine replenishment post exercise (Bendahan, 2002). Increasing the rate of ATP production and phosphocreatine production would aid in delaying fatigue.

Citrulline-Malate also has anti-fatigue properties due to its ability to decrease ammonia/H<sup>+</sup> levels and prevent against metabolic acidosis (Callis, 1991). Decreasing the sensation of fatigue (i.e. burning sensation) would allow one to workout harder and push out additional reps.

## **Beta-Alanine**

Beta-alanine is one of the two amino acids (histidine being the other) that make up the protein carnosine. Carnosine is an important metabolic buffer in skeletal muscle (Suzuki, 2002), which means it helps maintain the acid-base balance in the presence of high H<sup>+</sup> (hydrogen ion) concentrations. Beta-Alanine availability is the limiting factor in muscle carnosine synthesis (Hill, 2007). Beta-alanine supplementation increases muscle carnosine levels and aids decreasing muscle H<sup>+</sup> levels. Beta-Alanine supplementation has directly been shown to decrease neuromuscular fatigue (Stout, 2006).

## Putting It All Together

There are at least five metabolic factors that can cause fatigue during exercise:

- Increase in plasma tryptophan:BCAA concentrations
- Decrease in muscle phosphocreatine levels
- Hypoglycemia (low blood glucose levels)
- Muscle glycogen depletion
- Proton (H<sup>+</sup>) accumulation in muscles

Reference: Newsholme, 1992

Once you have your dietary needs met, you can incorporate specific supplements to delay fatigue and enhance performance by fighting against the above metabolic factors. In this article we learned that the recommended supplements delay fatigue and improve performance by:

- BCAA—decreasing blood tryptophan levels, sparing muscle glycogen, increasing de novo glutamine production to shuttle H<sup>+</sup> out of skeletal muscle.
- Creatine—increasing phosphocreatine and ATP resynthesis
- Citrulline Malate—increasing ATP production and phosphocreatine replenishment, delaying fatigue by decreasing ammonia/H<sup>+</sup> concentrations
- Beta-Alanine—decreasing muscle H<sup>+</sup> levels, delaying neuromuscular fatigue

Combining these supplements with a well-structured diet can allow you to workout more intensely by delaying fatigue and enhancing performance.

## Pre-Workout Supplementation Recommendation

- 5-10 grams BCAA
- 2-5 grams Creatine Monohydrate
- 3 grams Citrulline-Malate
- 2 grams Beta-Alanine

## Scivation Has Got Your Pre-Workout Supplementation Covered!

### Scivation Workout Nutrition Stack™—Xtend + VasoCharge

**Scivation has made pre-workout supplementation a thoughtless endeavor.** Imagine if you could take the scientifically-proven, synergistic ingredients to guarantee you have all bases covered and to assure that you get the skin-bursting pumps, mind-blowing energy and unbelievable endurance to help you attack the weights like a beast. Then imagine if you could fuel your muscles DURING your workout to encourage lean muscle growth and endless energy with enhanced recovery. If you're like anyone here at Team Scivation, this is a dream come true. Time to stop dreaming.

Scivation Xtend is the ULTIMATE pre, during and post workout formula ever created. It has even created its own category—Workout Nutrition™. Scivation VasoCharge, formerly known as VasoXplode, has become the standard in pre workout

supplementation featuring Beta Alanine, NO Enhancers, Mental Performance Boosters and the VasoRush™ Blend.

Scivation now gives it to you in one complete stack at an unbelievable price. The Scivation Workout Nutrition Stack™ is here, and it is time for you to get your swole on.

*Q: What are two of the main causes of poor performance and lack of growth/progress for bodybuilders and fitness enthusiasts?*

**A: Fatigue and increased protein breakdown (catabolism).**

If you do not have the energy and drive to lift harder and heavier each workout then you will not grow.

If you leave protein breakdown levels unchecked and allow muscle breakdown to occur during a workout then you will not grow.

Without proper workout nutrition you will not grow and progress and the rate you could with sufficient diet and supplement strategies. Scivation has taken the guess work out of workout nutrition and created a supplement combo that will increase your energy and performance, delay fatigue, and decrease protein breakdown WHILE increasing protein synthesis (the key to muscle growth). It's time to start taking your workout nutrition (pre and during workout) seriously and supplement with the Scivation Workout Nutrition Stack—Vasocharge + Xtend!

### *Scivation Vasocharge*

We have formulated Scivation Vasocharge around ingredients that are scientifically proven to increase performance and muscle growth. Vasocharge contains synergistic ingredients that work together to take the results you will see to the next level and beyond.

1. Creatine + Citrulline Malate
  - Synergistically increases performance
2. Creatine + Beta-Alanine
  - Synergistically increases performance and lean mass gains
3. Citrulline Malate + Arginine
  - Increases blood flow and amino acid deliver to skeletal muscle, leading to increased protein synthesis (muscle growth)
4. Tyrosine + ALCAR + Caffeine + D,L-Phenylalanine
  - Increases energy and mental focus while delaying fatigue, allowing you to workout harder and longer.

VasoCharge is formulated to allow you to increase the intensity of your workouts while delaying fatigue, which results in greater progress being made. VasoCharge increases energy production and power output, decreases H<sup>+</sup> accumulation and fatigue,

and increases blood flow and the deliver of amino acids to skeletal muscle, making it an all-in-one pre-workout powerhouse.

### *Scivation Xtend*

We have formulated Scivation Xtend to increase protein synthesis, recovery, and performance using a precise blend Branched-Chain-Amino Acids (BCAA), L-Glutamine, and Citrulline Malate. BCAA are a must have for workout nutrition. In summary, the metabolic roles of the BCAA Include:

- Substrate for energy production
- Substrate for protein synthesis
- Precursor for the formation of other amino acids
  - Primarily Alanine and Glutamine
- Metabolic signals (Primarily Leucine)
  - Stimulates protein synthesis through insulin secretion/activation of the PI3K pathway
  - Stimulates protein synthesis through activation of mTOR
  - Stimulates leptin expression in adipocytes through activation of mTOR

Xtend was formulated to give the body what it needs during exercise. As you exercise, the body increases the demand for various nutrients and if the body is not fed those nutrients, it must obtain them from other sources (i.e. breakdown of skeletal muscle to obtain amino acids). Both BCAA and Glutamine oxidation/demand is increased during exercise. In order to meet this increased demand for BCAA and Glutamine, the body breaks down muscle protein.

The goal of weight training is to increase protein synthesis. In order to gain muscle mass, protein turnover (protein turnover = protein synthesis – protein breakdown) must be positive. An increase in protein synthesis from weight training can lead to an increase in muscle mass. If we are increasing protein breakdown during training, we are decreasing the training session's overall anabolic effect and limiting muscle growth.

BCAA supplementation has been shown to not only increase protein synthesis, but also to decrease protein breakdown. By supplementing with Xtend during your workouts you are creating an ideal environment for muscle growth.

What all this means is ingesting BCAA primes your body for growth by increasing protein synthesis and energy production in muscle. All of these actions are beneficial to an athlete and should not be overlooked. There is endless research backing BCAA supplementation as part of one's workout nutrition. In addition, the citrulline malate found in Xtend increases atp/energy production, delays fatigue, and increase blood flow and amino acid deliver to muscle and the glutamine promotes increased recovery.

### *Vasocharge + Xtend*

By combining VasoCharge and Xtend pre-workout you prime your body for heightened performance and anabolism. Our pre-workout recommendation (taking 15 minutes pre-workout) is:

- 1 Serving VasoCharge
- 1 Serving Xtend

You should follow this up during your workout by sipping 2-6 scoops of Xtend throughout your entire workout. This will ensure protein synthesis levels stay elevated and your body is primed for growth.

While many people overlook the power of workout nutrition, with the Scivation Workout Nutrition Stack you can be ensured that your body has the nutrients and substrates it needs to performance better than ever and grow like never before.

## **Chapter 10—Wrap-up and Conclusion**

In this book we have outlined a 9-week and a 12-week version of the Tri-Phase Training Program. In addition, we went over abdominal training and cardio, supplement, and diet recommendations. You now have a complete program to use to add lean mass at an accelerated rate. Combining the Tri-Phase Training Program with one of the recommended diets and the prescribed supplements will allow you to gain size and strength like never before. I guarantee you will not be disappointed.