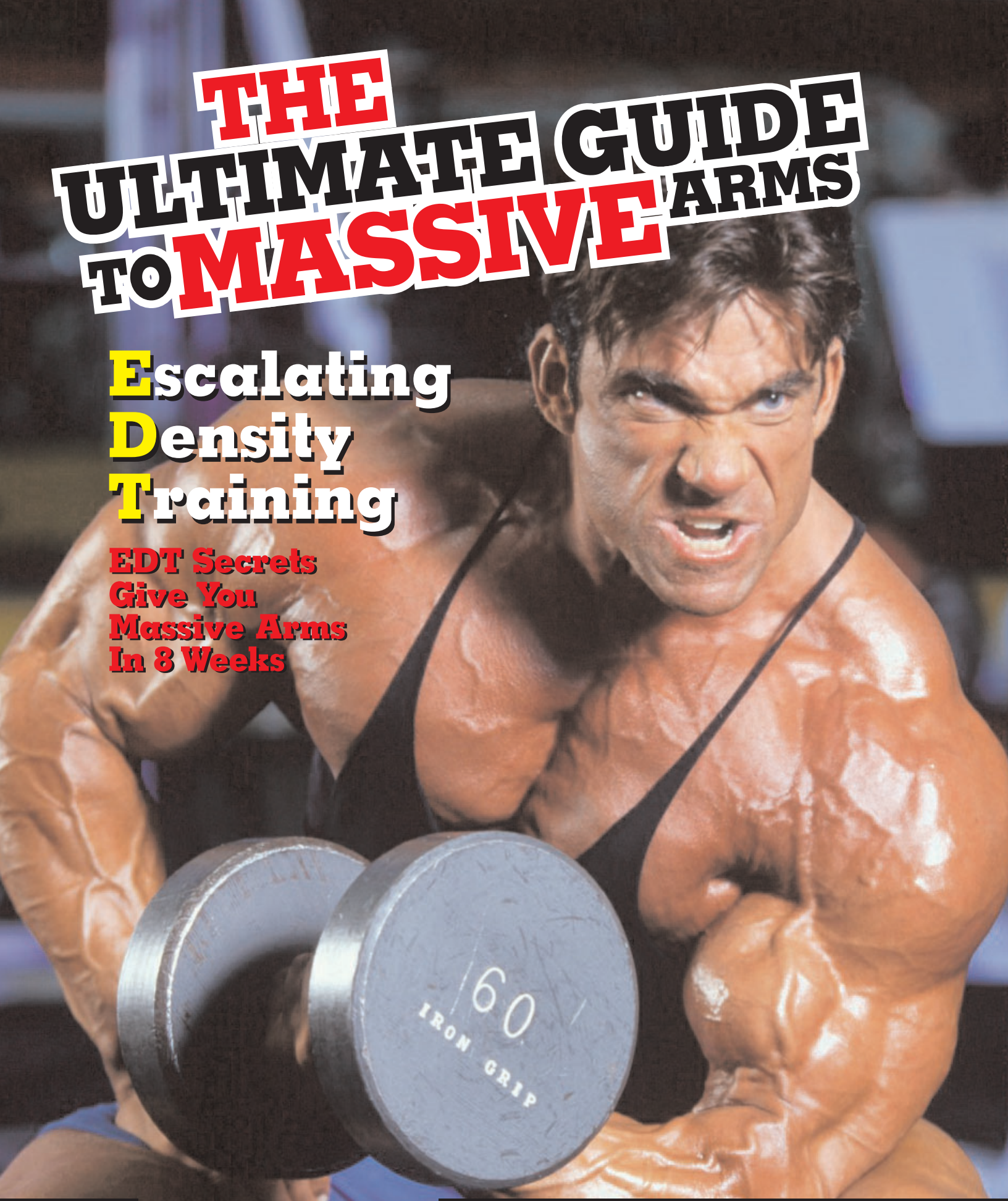
THE ULTIMATE GUIDE TO MASSIVE ARMS

Escalating Density Training

EDT Secrets Give You Massive Arms In 8 Weeks



Charles Staley, MSS. B.SC.

www.edtsecrets.com

Vol. 1: Arms

The Ultimate Guide to Massive Arms: Escalating Density Training

Volume I: Arms

By Charles Staley

DISCLAIMER

Please note that the author and publisher of this book are NOT RESPONSIBLE in any manner whatsoever for any injury that may result from practicing the techniques and/or following the instructions given within. Since the physical activities described herein may be too strenuous in nature for some readers to engage in safely, it is essential that a physician be consulted prior to training.

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To Rebecca & Ashleigh

The Two Girls That Changed My Life

In Wonderful And Unexpected Ways...

"Just wanted to let you know that while I haven't done an EDT arms specialization, I did modify workout #1 into an upper and lower body split routine. The results I got in 3 weeks—actually, probably less than that—were stunning!!! My arms grew about 3/8" without any direct work in that time! I'm a little reluctant about specializing on them at this point, because I might have to invest in a new wardrobe! Thank you for making training fun again! And simple!

—Chris Merrow, Portland, OR

✧

"Hi Charles,

Me and two training partners recently did a four week mesocycle of EDT, as a test to see how it affected us we didn't alter any diet or cardio regimes that were in place. Following the four weeks we had all gained the following:

Myself : 6/8 inch each arm (eating for mass)

Training Partner 1: 1 inch each arm (eating for mass, obviously more effectively than me!)

Training Partner 2 : 2/8 inch each arm (while severely DIETING!)

None of us where using any supplements apart from protein shakes/MRPS. I have to say I am incredibly impressed, and it has made me believe that this is the ONLY way to train arms. Thanks for your program..."

—Anthony Ball, Merseyside, UK.

✧

"I just completed my 6 week mesocycle of the EDT Arm Specialization plan. I realize that the article recommended only 4 weeks, but after 4 weeks my arms were still growing like crazy so I kept going! At the end of 4 weeks, my upper arm measurements had increased from 16 inches to about 16 1/2 inches. After 6 weeks they are now close to 17 inches! Although my arm meas-

urements aren't huge compared with most bodybuilders, the 3/4 inch or so that I gained has a huge visual difference. My arms now look much bigger than before—my gym buddies have seen my results and they have already started on their EDT mesocycle! Just a note of advice to anyone who does this training, make sure you get enough Vitamin C like Charles recommends. Also the post workout ice massage works like a charm for decreasing some of the DOMS you will get in your arms from EDT!"

—David Liu, Auckland, New Zealand

✧

"Once again your methods blow me away in their simplicity yet their incredible effectiveness. The best part is every workout is a competition to perform better than the last workout and that is tremendous for motivation. My trainers are psyched with their results and our clients see progress every time they complete a workout. Although I mainly train to increase combat performance, EDT is a great cycle to use for body composition. Thanks again, Coach!"

—Tim Larkin, Master Close Combat Trainer and Creator of Target Focused Training.

✧

"Charles,

After two EDT cycles, I am a believer. The first ended abruptly on the third session due to injury, but it was not related to EDT.

The impression that was made during the three sessions was, "Hey what the heck, even if I don't really gain ANYTHING, it is still a very fun way to train. Fun in an odd way.

I didn't really start EDT up after injury healed, wanted to crawl back in. The "burn" hunger returned and what a return on my investment.

Five weeks in, second go 'round, and although I haven't done any arm specialization as it was presented, only tweaked it mildly, and I am up from 16 1/4", with a little bit of slack, (ego thing) to

16 7/8ths, true measure. I am shooting for 17" and am certain it is on the horizon. That's not the most impressive part. My Chest/back measure went up from 47.5 to a very full 49 7/8ths. Waist is down from 36 1/2 (tight, ego again) to a comfy 36. The measurement I wish I took was across the shoulders. If my jackets are indication, the gain is equally impressive.

I have trained all my life, from age 14 (now age 36). This is the most sensible training I have ever come across. Had I stumbled across this early in my "career" I am certain that I would have avoided some injuries and regained an immeasurable amount of time.

Did I use everything EXACTLY as prescribed? No. I had to make some changes to fit my schedule. What I like the most is that EDT is able to be changed, should it be necessary, to accommodate schedule, injuries, etc. Simplicity is king.

Thank you for sharing your wisdom."

—Jay Wegner, North Richland Hills, TX.

✧

"I performed the EDT arms program during the four weeks between my summer and fall lacrosse seasons. Previously, I'd done bi's and tri's on different days—bi's 5 sets of 10 barbell curls, and tri's a mix of dips, overhead presses, close grip benches and pushdowns. I did the plan as outlined, except my exercise selection was slightly different and I had no post-workout cryotherapy, as I often work out over lunch and I can't really sit at my desk doing cryotherapy every afternoon. I gained about 1/2 inch on each arm—well worth it for a guy whose arms have been the same size for almost a year. I upped the weight once, after I beat all my rep goals by 20% in week 3. I really liked the time limits, they made intense workouts doable over a lunch hour. I'd like to do another week to beat my new heavier weight rep totals, but with lacrosse starting, there ain't no way. I really liked EDT and will do it again for arms and other body parts in my next hypertrophy phase. Thanks for EDT."

—Matt Ingwalson, Denver, Colorado

✧

"Charles has redefined simplicity with his Escalating Density Training system. Do more in less time and you will grow. I wish I had known about EDT while on the National Team (Luge). It would have saved me a ton of wasted time and training."

—Jonathan Edwards, Olympian.

✧

"I am a 39 year old husband and father of three. I have been playing sports and weight training since I was about thirteen. Anyway, I have used many training methods and supplements. I have to say that EDT has given me real noticeable gains in a shorter amount of time than any other program I have used. It is a logical and easy to follow method.

First of all, my arms, (my weakest body parts) responded quite well. Several people, including my wife, remarked about how much more muscular I was getting. When someone you only see a few times a year says that, it may not mean much, but when the people you see every day notice, I think that is significant.

The other advantage of EDT, for me, is that it causes me to feel motivated before, during and after my workouts. There is no more satisfying competition than when you compete with yourself. Attempting to improve during each and every workout is something that I always said I would do, but never really stuck with for an extended period. I was more focused and I looked forward to each workout. EDT doesn't allow you to get into a "rut."

I am currently training low volume, to aid in recovery, but as soon as I finish that program, I will be going right back to EDT!"

—Alfred L. Guy, Baltimore, Maryland

✧

"I have been following the EDT program since you wrote it.I have modified, added, and gone thru both version 1 and 2. I must say I have had the best gains in my life, not too mention the fat burning cardio aspect to it. Thank you, thank you, thank you!"

—Rod Termaat, Lincoln, NE

"Just wanted to let you know that I gained 8 lbs in last months EDT cycle went from 190 to 198. Actually got up to 200 but steadied out at 198. Went from 13% bodyfat to 12% as well. I actually gained those 8-10 lbs in the first two weeks."

—Greg Gonzales

✧

"Just wanted to let you know your two articles on EDT have kicked my ass. I have lost a few pounds fat/water without dieting!" Thanks.

—Mike Holladay

✧

"I recently began using the Escalating Density Training routine by Charles Staley. All I can say is, OUCH!…Staley's routine has produced more muscular soreness than I have ever experienced. It's not just the first few workouts that produced soreness, but every workout for the last two weeks, plus the pump I get is absolutely incredible. Not to mention the fact that I don't feel guilty about my lack of cardio with this routine; in fact I began wearing a heart rate monitor because I thought I was going to have a heart attack. My pulse rate is maxed out during the entire workout. I can't say enough about the workout, especially the workout planning. All I have to do is pick four exercises and go balls to the wall, a total no-brainer.

I love the pain and intensity of this particular workout; all the cattle (people who allow themselves to be led rather than forging their own way) in the gym look at me like I'm a psycho. They haven't a clue what working out is all about."

—Brian C. Kowalewski

✧

"The sheer effectiveness and brutality of the EDT program does not come across in the written word. This is a TOTAL gym experience"

—Alwyn Cosgrove, CSCS, Director, Cosgrove F.A.S.T Systems, Newhall, California.

I'm standing there in a puddle of sweat, muscles aching, mind humming, grooving on a well-deserved beta-endorphin rush. Yeah, I'm thinking, this is what it's all about. Call it being in the zone, experiencing flow, or enhancing your ch'i. Doesn't matter. Whatever term you apply to the feeling, you know it when you experience it. To those of us who train with weights, it's the ultimate high.

That's about as much time as I have for reflection however, because the impetus behind this hyper-conscious state of mind, Charles Staley's revolutionary new training program, demands that I stop messing around and get another set…and another, and another, and perhaps just one more. This is, I think, the longest, most challenging thirty minutes of my life, and I'm loving every second of it. This is EDT.

I first heard about EDT, or Escalating Density Training, over a year ago when it was only a rough idea bouncing around the brain of Coach Staley. The idea was certainly intriguing, one of those ideas that makes so much sense, you think to yourself, "Hey, why hasn't anyone thought of this before?" (That, by the way, is usually a sign the idea is a big one, something that could very well change everything.)

I told Charles if he could ever capture that idea and get it down on paper, I'd love for him to submit it to the magazine I help edit. He did, and then something quite remarkable happened: everyone at the magazine, from the copy editor to the executive head honcho, started using the program!

Folks, that just doesn't happen very often in the muscle magazine business.

We see new programs daily, heck, we're practically desensitized to them. It really takes something groundbreaking to peak our interests and get our adrenaline pumping. After a week of EDT, we all agreed that Charles was really on to something.

In this book, you'll learn how to construct your own rut-breaking, paradigm-shifting, ball-busting EDT program, but the book goes way beyond sets, reps, and rest periods. Like any good teacher, Charles knows that education is not the filling of a pail, but the lighting of a fire. In this book he'll provide all the kindling you'll need to build a raging blaze, from goal setting to accelerated recovery methods. Your level of training knowledge will grow right along with your biceps.

- ✧ **Get ready to think differently.**
- ✧ **Get ready for the rush.**
- ✧ **Get ready to grow.**
- ✧ **EDT has arrived!**

—Chris Shugart
Testosterone.net

Table of Contents

Big Arms= Big Impact

Like it or not, there's no escaping the fact that a set of large, muscular arms demand respect. They make you stand out in a crowd. Most of the time, your abs, legs, etc., are covered up, but if your arms are lacking, it's there for all to see.

In my experience however, many sincere and hard working people (gym rats and athletes alike) face endless frustration when it comes to adding even fractional amounts of girth to their biceps and triceps. The options are endless: three sets of ten…five sets of five….ascending sets…descending sets…pyramids…drop sets…super slow….explosive training…the more you read, the more confused you become! Even my Olympic and professional athletes find themselves so exasperated that often they'll often just say "Charles, just tell me what to do—that's all I want!"

Well, look, it's not your fault—I can relate with those who find themselves terminally confused as they attempt to wade their way through the miasma of (usually) conflicting theories and methods about working out. In fact, it was my own frustration with this confusion that eventually led to my own proprietary training system known as Escalating Density Training™ (EDT), which we'll be discussing in great detail in pages to follow.

Eventually, what I came to appreciate is that what makes a program work (or not work) has less to do with the particulars and more to do with the governing principles. In other words, when you know the "why to do's," the "what to do's" usually take care of themselves.

Common Herd or EDT?

I've been in gyms all across North America for over 20 years, and I've watched countless numbers of hard-working, well-meaning people working out in vein, having absolutely no clue that they'll never get anywhere with the antiquated, piss-poor methods they're using.

So I'm going to let you in on a little secret: The way of the herd is not and cannot be the path to extraordinary accomplishment. Think about it—of all the people who you see regularly at your gym or health club, how many of them have made any sort of recognizable progress in say, the last 3 months? OK, how about 6 months? I'll even give you a full year…how many have made visible progress?

My guess? Less than 1 percent. And that means, quite simply, that the sum total of all the methods that the 99 percent are using, quite honestly, do not work.

An old definition of insanity is doing the same thing and expecting a different result. What I'm asking you do do is something dif-

ferent, and I'm PROMISING that if you do it, you WILL get a different result (specifically, shirt-sleeve splitting guns that will inspire awe in some, disgust in others, but regardless of the reaction, people will RESPECT, and typically, admire, the inescapable evidence that you are no stranger to the gym).

I want to state right here and now that I am completely confident that EDT will work for you. But I must warn you that extreme results require extreme measures. And while it is true that EDT workouts are very brief as compared to other methods, there is a price to pay if you expect extra-ordinary results. The reason that very few people ever experience these results is that they are unwilling to pay that price—in other words, at the end of the day, having mind-boggling arms is not worth the lifestyle choices and behaviors that are necessary to achieve them. So, in closing, I want to emphasize that EDT is not simply a set/rep format, but in reality, a lifestyle. It requires attention to attitude, mindset, recovery, nutrition, and time-management. Is your goal worthy of this type of commitment? If so, you're the person I'm trying to reach with this book.

Right now, you're holding an enormous shortcut in your hands—over 20 years of total (and probably irrational!) dedication to training boiled down to it's most practical essence. Don't be fooled by the seemingly simplistic concepts you'll find in the book. It's been said that we all need a lesson in the obvious, and this book will be a major step in that educational process for any and all who read it. Although EDT has been called a novel approach to training, we must be careful not to confuse novelty with effectiveness. If 3 sets of 10 was the best way to train, that's what I'd be writing about.

I suspect you're already working hard— now I'll show you how to work SMART. EDT is the culmination of my over 20 years in the field working with everyone from 9 to 5 types to some of the most talented athletes who have ever walked the planet. And while many other training methods can and do work, EDT is the most effective and efficient way to train. But then, you'll find that out as soon as you complete the first workout!

I wish you unprecedented, shocking levels of success in your training, and in life, and I'm truly grateful and having the opportunity to contribute to that success through this book.

Charles Staley
Las Vegas, Nevada
September 23, 2002

PART ONE

Getting Into The Game (The Preliminaries)

"Did you ever consider how ridiculous it would be to try to cram on a farm— to forget to plant in the spring, play all summer and then cram in the fall to bring in the harvest? The farm is a natural system. The price must be paid the and the process followed. You always reap what you sow; there is no shortcut." — Steven Covey

1

Understanding The Principles That Create A Successful Training Program. Without These Any Plan Will Fail

Some readers will have a tendency to gloss over when discussing this subject because they perceive it to be impractical or somehow unrelated to their bottom-line objective. I disagree for two reasons:

1. Understanding the principles (or the "why to do's) make you more independent and better able to make good "on the fly" decisions when problems or unexpected situations arise. For example, let's assume you're in the middle of a workout and it becomes apparent that you're never going to manage 5x5 with your chosen weightload of 145 pounds. What should you do—complete the remaining sets with less weight? Continue using 145 and just get as many reps as possible on the remaining sets? Or perhaps you should just stop as soon as you fail to hit 5 reps? When you understand the principles—which are in essence the beneath the surface "software" behind your workouts, you'll automatically know how to make the best corrections when problems arise (and they will, trust me!)

2. When you understand the underlying principles of EDT, you'll have even greater confidence in the system—you'll have a better appreciation of why it works and why I've designed it the way I did. And, it goes without saying, when you have more confidence in the program, you'll commit to it on a higher level that you would if this were simply a "how to" type of book.

Before we examine these principles in detail however, let me state that ANY program which abides by these principles will lead

to success. The big advantage of EDT however, is that is makes it almost impossible for your workouts to violate any of them, ever. Every workout will be specific, progressive, and your training cycles will have the appropriate amount of variability for optimal progress. Further, EDT automatically adjusts to each individual's specific anatomy, fiber-type ratio, personality type, and other factors, from workout to workout.

So without further adieu, let's look at the five immutable laws that govern your efforts in the gym. Master all five, and you'll succeed beyond your wildest imagination. Fail to appreciate them, and you'll join the common herd of wanna-be's that never make a speck of progress no matter what they do. The choice is yours!

The Principle of Progressive Overload

IN GEEK-SPEAK:

In order to provoke an adaptational response, the organism must be subjected to stressors of ever-increasing magnitude.

IN GYM-SPEAK:

"No Pain, No Gain."

COME AGAIN?

Golfing phenom Tiger Woods, like all beginning golfers, started with the simplest of skills. He learned how to hold the club, how to address the ball, and so on. But if Woods had not continued to challenge himself with increasingly more difficult skills, he would never have attained even a small percentage of his ultimate potential.

The same applies to exercise training. To the body, physical training (which is in fact a form of "motor learning") is a form of stress. In fact, Soviet sports scientists refer to training as an "irritant," since it disrupts the body's preference to stay the same. This is called "homeostasis."

OK, BUT HOW DO I USE THIS STUFF IN MY WORKOUT?

In a nutshell, you MUST ensure that each session is slightly more challenging (and I've used the term "slightly" on purpose—progressing at a rapid rate always leads to failure because it cannot be sustained over the long run) than the one that preceded it. There are at least three ways to accomplish this:

1. Increase intensity: Intensity is defined as the absolute difficulty, or the *quality* of your training.

2. Increase volume. This refers to the total amount, or the quantity of your training.

3. Increase density. Escalating density is both the name and hallmark of the EDT system.

There is one catch to this principle: If the stress applied is too sudden or severe, the body will be unable to successfully adapt, and injury, illness, and overtraining will result. Think of it this way: If you're very pale and on the first hot day of summer you decide to lay out in the sun for four hours, you'll probably acquire a severe sunburn—the sudden and severe stress of the intense sunlight exceeded your body's ability to protect itself against it.

On the other hand, if you lay out for 30 minutes the first day, and then 60 minutes two days later, and then 90 minutes two days after that, your body will have time to create melatonin cells in your skin as a protective measure against future exposures to the sun. Training works exactly the same way.

Perhaps the best way to ensure that your exercise program abides by the principle of progressive overload is to keep a detailed training log. In this way, you can determine last week's training load, and then plan this week's training such that it exceeds what you accomplished last week. There are a few very simple yet powerful ways you can do this:

- ✧Perform work of a higher intensity (or quality). In the gym, the generally means using a heavier weight, although it can also be accomplished by moving a given weight faster.

✧Do more work (e.g., more total sets and/or reps) in the same period of time, or…

✧Do the same amount of work in less time

Whichever method you choose, when you progressively challenge yourself you'll grow. Life requires challenge in order to thrive, and your muscles are no exception to this universal principle.

The Principle of Reversibility

IN GEEK-SPEAK:

When the environmental challenge is discontinued, the organism responds by discontinuing it's adaptational response.

IN GYM-SPEAK:

"Use it or lose it."

COME AGAIN?

After a lengthy period of inactivity, your body will return to its previously untrained state. Although unsubstantiated by research, athletes over the years have recognized a certain "muscle memory" that makes it possible to make a "comeback" after a long period of inactivity, in a shorter period of time than it took to get to get to that level initially. However, conscientious trainees are better served by ongoing training than by gambling on "muscle memory."

The principle of reversibility suggests that you should stay in training year round, although the intensity and character of training will vary throughout the year. The sudden discontinuance of training (for example, after a professional athlete retires) is in itself stressful physically, as well as emotionally and psychologically. For this reason, many former Eastern-bloc sports programs utilize a planned and gradual reduction of training over several years upon an athlete's retirement from elite level competition.

OK, BUT HOW DO I USE THIS STUFF IN MY WORKOUT?

Consistency is the hallmark of all successful training programs.

Perhaps the best way to ensure it is to create a lifestyle that supports your training efforts. This includes scheduling your workouts as if they were meetings or appointments. When something is important, you must put it on your schedule first, and then work other tasks in afterward, rather than vice versa. So, instead of planning to do a workout "tomorrow," actually set up an appointment with yourself tomorrow from 1:00 to 2:00. Even better, find a motivated training partner who will keep you accountable to that appointment! In a later chapter, I'll thoroughly discuss a number of time-management strategies that will help you to stay consistent in your training schedule.

The Principle of Variability

IN GEEK-SPEAK:

Over time, monotonous stimuli tend to result in ever-smaller disruptions to homeostasis as the organism learns to cope with already-familiar stressors.

IN GYM-SPEAK:

"Dude, you've hit a plateau— change up your routine to shock your body into new growth."

COME AGAIN?

One of the more paradoxical facts about training is that specificity must be balanced against variability within the context of a sound training program. In other words, specificity is necessary, but too much of it is just as much of a problem as not having enough! Here's why:

- ✧The effectiveness of any program is a function of the degree to which it challenges your body. The problem is that familiar programs are less challenging, because the body habituates (habituation is the gradual reduction of a response when an initially new stimulus is repeated over and over). Every time an athlete repeats a training program, it becomes less effective.

✧All programs have both negative and positive features, no matter how well designed or specific. Too much time on one program, and athletes demonstrate a tendency to habituate to the positive aspects and accumulate the negative ones. For example, the athlete who performs barbell bench presses every week may develop an imbalance between the front and rear deltoid muscles, despite the fact that he or she is not getting stronger on the exercise.

✧Unchanging training routines lead to overuse injuries. According to Dr. Sal Arria, Sports Medicine Director for the International Sports Sciences Association, "Adopting long-term training habits of any kind is very often a precursor to degenerative changes in the joints. Advanced athletes are particularly vulnerable, since their training tends to become more and more specific over time."

OK, BUT HOW DO I USE THIS STUFF IN MY WORKOUT?

For the reasons just stated, it's crucial to constantly change all aspects of training—everything from the frequency of sessions to their content. In most conventional forms of training, you're required to consider various options in terms of how to accomplish this. When you perform Escalating Density Training however, these decisions take care of themselves. For example, each workout, you'll perform more total repetitions in the same time frame. This means that each workout features greater volume and density. Further, as soon as you manage to improve your initial performance by 20 percent or more, you'll increase your weightloads by 5 during the next workout— an increase in intensity. Finally, when you are no longer able to improve upon your last performance, you'll change your exercise menu and start the process all over again (more about EDT's progression strategies later).

The Principle of Specificity

IN GEEK-SPEAK:

The body's adaptation to training is very specific to the type of training stimulus. Thus, the athlete must first decide which type of adaptation is desired (strength, speed, power, agility, or whatever)

and then select the appropriate type of training that is known to produce the desired response, or training effect. This is sometimes referred to as the "S.A.I.D. principle," or Specific Adaptation to Imposed Demand.

IN GYM-SPEAK:

"If you want a bigger bench press, do more bench presses!"

COME AGAIN?

All of the principles I'm discussing here are universal and apply to all facets of life. In the case of specificity, let's use the analogy of going to school: studying geography tends to improve your skills in geography, but not your skills in other subjects such as math or English literature. If you go to the gym three times a week and do nothing but barbell curls, you'll tend to develop bigger biceps, but not bigger calves (this example excludes certain individuals who experience hypertrophy of the low back musculature as a result of doing barbell curls!)

OK, BUT HOW DO I USE THIS STUFF IN MY WORKOUT?

OK, whenever you talk about specificity, you have to ask "Specific to *what*?"

In the gym, *your exercise selection must be specific to the muscles you want to develop*, and *the loading parameters you choose must be specific to the motor qualities you wish to develop.*

The first part of this explanation should be intuitively obvious. However, if you're not sure which exercises target a particular muscle, there are a few easy ways to find out:

- ✧During the exercise which muscles are experiencing fatigue?
- ✧The next day, which muscles are sore?
- ✧On many exercises, including leg extensions, leg curls, back extensions, tricep kickbacks, lateral raises, flyes, etc., you can determine which muscles are targeted by simply observing

which muscles or muscle fibers are facing the ceiling. For example, if you perform a front dumbbell raise, the deltoid fibers that face upward are the ones, which will receive the brunt of the training load.

Incidentally, if you're using an exercise that supposedly targets a specific muscle (say, the quadriceps) and you feel the most fatigue/soreness in other muscle groups (such as your low back), OR if you tend to feel pain in your joints rather than fatigue in your muscles, it'd be wise to have an experienced exercise professional evaluate your technique for you.

Now let's look at the second part of the explanation: *"the loading parameters you choose must be specific to the motor qualities you wish to develop."* Here is a short list of a few of the most relevant motor qualities you should be familiar with:

Absolute Strength: This is the amount of musculoskeletal force that can be generated for one all-out effort, regardless of time or bodyweight. While only powerlifters need to maximize and demonstrate this type of strength, anyone interested in a leaner, stronger body should work on developing absolute strength, as it forms to create a foundation for hypertrophy (see below)

Speed Strength: This term simply means strength divided by time, or put another way, strength per unit of time. SS is defined as work divided by time, where work is defined as force x distance. Therefore, SS is defined as force x distance, divided by time. Many fitness enthusiasts ignore this motor quality, assuming it only applies to elite athletes. But it's important should not be underestimated, for at least two reasons:

- ✧Speed strength training targets the so-called fast-twitch muscle fibers— the ones that have the most capacity to enlarge and raise the metabolic rate

- ✧Of all the motor qualities, speed strength is one of the fastest to deteriorate as we age. So if you want to maintain your ability to train hard and enjoy an active lifestyle as you approach your later years, you need to work on your ability to move weights fast.

Hypertrophy: This refers to muscle enlargement—Now remember how I said earlier that absolute strength forms the foundation for hypertrophy? Here's why: you have to stimulate fast twitch fibers before they can grow.

Note: Unlike conventional training systems, which use different workouts and/or loading parameters to promote the development of these various qualities, EDT promotes the development of these qualities using the same parameters. In other words, in a single 15 or 20-minute PR Zone, you'll be developing maximal strength, speed strength, muscular hypertrophy, short-term anaerobic endurance, and lactic acid tolerance.

The Principle of Individual Response

IN GEEK-SPEAK:

Each biologic organism is unique with respect to genetic potentiality, morphology, environmental stressors, fiber-type ratios, endocrinology, and a host of other factors, which precludes the possibility of an across-the-board, homogenous response to particular stimuli.

IN GYM-SPEAK:

"Everyone's different— you have to find what works for you."

COME AGAIN?

While the previous principles are often regarded as the cornerstones of a scientifically planned training system, another very important factor—individual differences between athletes—must also be considered. While similarities frequently outweigh differences, an individual's physiological, as well as psychological and emotional characteristics, must be considered in the course of constructing the ideal training plan.

OK, BUT HOW DO I USE THIS STUFF IN MY WORKOUT?

If you apply the same training plan to one hundred athletes, be assured there would be a corresponding number of different adaptational reactions (i.e., character of, and rate of progress) to that

plan. Males and females differ in their recovery times between workouts, taller people have longer reaction times than shorter people, large-footed people have better balance than those with short feet, and so on. Sickness, injuries, lifestyle, and coaching background, as well as innate genetic differences further add to the differences among athletes.

Individuality is a dynamic concept. As you progress, your training must change to reflect your higher level of fitness. For example, it might take you 16 weeks to reach a certain level of strength the first year of training. The next year, even if you have not performed strength training for several months, it might take only eight to 10 weeks to meet or even exceed the strength levels of the previous year.

Escalating Density Training recognizes and anticipates your unique individuality without the need for your conscious participation in the process. For example, some people have a very competitive, aggressive personality, while others are more laid back and tentative in the gym. With EDT workouts, it doesn't really matter—each workout, you'll perform more total reps than you did in the previous session. Aggressive people will exceed their last performance by a large margin, and less aggressive people will improve by a smaller margin. However, in the long haul, both are training in a manner that corresponds to the five immutable principles we're discussing in this chapter. Therefore, both will make optimal progress, albeit at different paces.

In another example, an athlete who is fast-twitch dominant (meaning that he has a relatively large proportion of fast twitch muscle fiber in his muscles) will instinctively choose lower-repetition sets in each PR Zone, as compared to someone who is slow-twitch dominant. Again, EDT accommodates to each person's individual differences without the need for different strategies for different types of people.

From Principles to Practices

Now that we've explored the underlying laws of successful training, I'd like to shift your attention to some important behavioral components of the training process. These factors typically receive scant attention in most books and articles on the subject, but my experience has convinced me that they form the foundation of success.

2

Goal-Directed Behavior

The concept of goal setting is viewed as somewhat cliché, but it's hard to argue against once you consider it carefully. Paradoxically, virtually everyone agrees that goals are important, yet less than 5% of the population has one...

Once I was asked if I'd ever like to be able to squat 1000 pounds. I replied that, no, not really, because obviously, if I had really wanted a 1000 pound squat, I would have taken the steps necessary to get it, which I obviously haven't. Now of course, it might be the case that even if I applied maximum effort and resources to the goal of squatting 1000 pounds, it might not be in the cards for me anyway. But my point is that self-actualized people make things happen, rather than hoping they will happen. (Incidentally, I'm also philosophically against gambling, because it promotes the idea of hoping for success, rather than planning and working toward it. When you live on hope, the universe is in control. However, when you base your life on strategic planning, YOU are in control.

I once heard powerlifting coach Dave Tate explain the process of goal orientation this way: if you're trying to find a location in Columbus, Ohio using a map of Cincinnati, no matter how well intended, no matter how hard you try, you'll never find your destination in Columbus. Life is a lot like that— if you don't have a clear destination and an accurate map, you'll never find success. You may remember that in the introduction, I cautioned against mistaking novelty with effectiveness. This is just such a case: goal setting certainly isn't anything new, but please be assured, it is profoundly effective. In fact, if you wish (or better yet, plan) to be successful, there really isn't any other altern

Where Are You Going?

We all have desires, things we hope to achieve in life. The question is, what exactly do you want? And how badly do you want it? How serious are you really? Have you really considered what you'll have to give up to get what you want?

Anatomy of a Goal

A goal is a written expression of intent to accomplish a specific, personally meaningful objective within a predetermined time frame.

Based on this definition, I'd guess that fewer than 5 percent of all people have even a single goal at any one point in time. Sad, isn't it? If you're in the 95 percent club, this chapter will show you how to cross over. As a starting point, let's examine the above definition point by point:

- ✧A goal must be stated in writing: If it isn't written, it isn't a goal. Period. It may be a wish, or a vague desire, or a fantasy, but it isn't a goal, and you're not likely to achieve it.

- ✧A goal must be specific and measurable: Your desire to become "as big as a house" isn't a goal. It isn't specific enough. We need to talk pounds at a certain body fat percentage, not real estate.

In order to be specific, your goal must be quantifiable. This is a very significant for bodybuilders, whose sport is by definition qualitative and subjective.

Where Are You Going?

- ✧A goal must be personally meaningful: Your goal must be worthy of your unconditional resolve and personal sacrifice (defined as giving up something in order to gain something greater as a result) for the allotted time-frame, or you won't bother to pursue it. It must have real value and undeniable potential to improve your life. The desire to get down to 7 percent body fat by May 1st so that you'll look great at the beach this summer is specific, challenging, and has a completion date, but other than soothing your ego, what meaning does it really have?

Now of course, if this goal (getting down to 7 percent body fat by May 1st) is part of your long-range objective to become a champion bodybuilder or fitness competitor, we now have a more meaningful context for your objective, since your competitive aspirations will have rewards above and beyond ego-gratification, such as career possibilities, character development, and so on. Once you can see the complete range of benefits that accomplishing the goal has for you, you'll be ready to commit enormous personal resources to achieve it. Now think back to your original motivation—looking great at the beach. Is this goal really worth the considerable time and effort that it'll take to achieve? If so, proceed. If not, explore other goals that will significantly impact your life when you accomplish them.

Additionally, goals must be framed in such a way that they push your emotional "hot buttons." For example, it may be that you have a goal to parallel squat 400 pounds by your 30th birthday eleven months away. Your current PR is 355. This is a specific, challenging, and presumably meaningful goal for you. However, step back for a second and consider which sounds more attractive: 400 pounds (a nice even number), or, 405 pounds, which is (4) 45-pound plates on each side of the bar. Or, if you happen to weigh 205 pounds, perhaps the concept of lifting 410—double your bodyweight—has the most appeal.

There is no right or wrong answer here— the point of the exercise is to see how slightly different ways of framing an objective can effect your emotional reserves. Which option seems most appealing to you?

✧A goal must be challenging: If your goal isn't challenging, you're not likely to mobilize significant resources to attain it. For example, using the previous example of the 400-pound squat, some would argue for a more "realistic" goal of 365 pounds. However, while certainly realistic, a 15-pound improvement in 11 months is hardly the stuff of dreams, is it? In fact, its such a small increment that you might be likely to forget about it before the day is over! Better to aim for the stars and fall on the mountain peaks, as they say.

How Long Will It Take?

✧A goal must have a specific date of completion: Time frames are what create pressure to get the job done. Your time frame must be aggressive, but realistic. If you're not sure if your goal can be accomplished within a certain time frame, you'll have to either base your time-frame on personal past experience, or you may have to do a bit of intelligence work in order to find out.

✧Your goal must be stated in the positive: Remember the old story where the football coach says to his star receiver "Whatever you do, don't drop the ball!"? Guess what he ended up doing? You can't plan to not accomplish something.

A Few Essential Items to Pack for the Trip

The following collection of strategies and skills are like a psychological "toolbox" which will properly arm you while in pursuit of your objectives. These tools are found in the blueprints of all champions, not only in sport, but in life as well.

Visualization and Imagery: If you can't genuinely picture yourself achieving your goal, it's very unlikely, probably impossible that you will achieve it. The old, overused, cliché axiom "conceive, believe, achieve" is packed with truth. Let me relate a story from my martial arts background. When I taught martial arts professionally, I always had very successful kid's classes. Occasionally, during a quiet moment either before or after class, or simply when the moment seemed right, I would take a kid from a beginner's class, and I'd remove my black belt and tie it around his waist. Words simply cannot express the wonder and complete change of "state" that would instantly overcome that child—you could literally see the gears turning as that child imagined what it would be like the day he achieved the rank in the future.

You know the old expression "I'll believe it when I see it"? Long before I ever squatted 400 pounds, I saw it clearly in my mind. I actually practiced by loading the bar on the power rack and just pondering the day when that bar would be mine. I'd even perform "walk outs" with the weight in preparation for the big day. I also frequently used Olympic bumper plates, which are much thicker than iron plates for their weight—using bumpers, a

bar loaded to 176 pounds occupies about the same space as 405 pounds of iron plates. This way, I was really able to see myself squatting 405. Funny thing was, the day I actually lifted 405, it wasn't particularly a big deal for me—I'd felt as though I'd already done it, and this was simply the physical expression of a capability I already knew I had. The moral of this story is, I could give you 50 ways of becoming more successful, but if I could remove your self-doubt, those 50 things would improve all on their own!

Affirmations: An affirmation is a statement of belief. It can be regularly recited, or written and posted at a place that you're likely to see it often during the course of a normal day. The concept of affirmations is to overload your psyche with positive belief statements until there is no longer any room for preexisting negative self-perceptions—much like taking a jar filled with water (which represents old, limiting beliefs), and filling it with pebbles (representing the positive affirmations) until all the water has been forced out of the container.

Although the concept of affirmations is often the butt of late night TV humor (e.g., Saturday Night Live's Stuart Smalley), in truth, they are very powerful tools for the acquisition of goals. The mind is immensely powerful—if you can control it, that is. Ever notice how women will tell you that they gained too much muscle after 2-3 weight training sessions? Or have you ever heard lifters (usually guys) extol the virtues of XYZ supplement, even though science has proven it completely useless? This is the power of belief, my friends. If you can harness that power to a well-designed plan, the battle is already half-won.

Sample affirmations:

"Because I expect to succeed, I find it easy to take daily action on achieving my goal."

"I am responsible for my own future. I expect to succeed. I control my own destiny."

"I dream big dreams, believe in them, set goals to achieve them, and take action to make them become reality."

Create your own affirmations to support your goal, as well as the habits and attitudes necessary for achieving your goal. Write them on note cards and choose a consistent time to read them at least once a day.

As I sit here writing this, I can see an affirmation that has been important to me over the years—in fact, it's so meaningful to me that I've had it framed: "The biggest difference between champions and other people is that champions stay focused on completing activities which are the highest and best use of their time."

Modeling: A very useful concept, popularized by Anthony Robbins (if your only exposure to Robbins are his info-mercials, don't rush to judgment— his concepts and teachings have very real merit), implements what I call the "don't reinvent the wheel" principle: find other people, similar to yourself, who have accomplished similar goals. Then, find out what they did to accomplish the task(s), and repeat those steps. Since all humans share essentially the same biology and physiology, you should get the same result, or at least very similar results.

For example, if your hectic, 6-day a week work schedule is a severe obstacle to accomplishing your goal, find a talented lifter who has succeeded with a similar schedule. Find out how he managed to do this, and then implement the same strategy. Chances are very strong that it'll work for you as well.

Cognitive dissonance: The mind can't maintain two contradictory beliefs simultaneously. When you're trying to extinguish a negative or limiting thought process, or emotion, cognitive dissonance can be your best friend. Let me provide an example from my competitive fighting career: When you step into the ring with a skilled opponent your own size or bigger (and especially if you don't have Don King on your side!) it's natural to be afraid. After all, you can get hurt doing this stuff! While fear is not entirely a bad thing (it's a self-protective mechanism), it does tend to make you doubt your abilities, and your skills erode accordingly. Over my own fighting career, I learned little trick that helped me enormously: I learned to act. I would put on an air of total disregard, joking with my opponent, yawning, goofing off, and so on. It's called "acting as if..." What I learned is that you can't be scared and act like you're bored simultaneous-

ly—something has to give. Incidentally, this can also be called the "fake it 'till you make it" principle.

How does one apply this principle toward the acquisition of challenging goals? Going back to my personal experience with the 405-pound squat, I remember that I thought, acted, and presented myself as a 400-pound squatter long before I could actually do it. I would look for any and every opportunity to demonstrate this, for example, squatting 315 completely cold (i.e., no warm-up) when someone asked me to demonstrate something about the lift. Although inwardly, it was quite a challenge for me to squat this weight cold, outwardly I'd act completely nonchalant about it, talking through the lift and acting as if I could squat that weight all day long. The idea behind all of this is that I was gradually convincing my unconscious self that I was a 400-pound squatter. With a bit of creativity and imagination, you'll come up with various ways to employ the "fake it 'till 'ya make it" principle in your own training. And if it's not obvious by now, yes, it IS dangerous to squat big weights without a warm-up.

Avoiding Collisions Along the Way

Although it will seem tempting, don't automatically express your goal to everyone you come in contact with. You need to consider the likely responses you'll get, and how you'll react to those responses. For example, if you thrive on proving people wrong, then it might be a good idea to express your ambitious goal to your friends and peers who are most likely to doubt your abilities. On the other hand, if you're somewhat dependent on more positive forms of feedback, avoid such people in favor of those who will be supportive of your project.

Let's face it—if you are in the process of pursuing challenging goals, the "common herd" will view you as a freak. If this sort of antagonism really drives you, express your goals to everyone you know, and get ready to surf the wave of negativity all the way to your completion dates! On the other hand, if you think you'll be a bit intimidated and depressed by having everyone you know doubt your abilities, it's better to keep your plans to yourself.

Fear of Failure

Probably the number one reason that few people establish goals for themselves is the fear that failing to succeed will bring unbearable negative consequences. These people postulate (usually in an unconscious way) that if they never set a goal, they can never fail. These people also fail to realize that the flip side of this pattern is that they will also not succeed!

If fear of failure seems to be a reality for you, consider that even if you fail to realize your goal, it's still likely that you have improved to a measurable degree along the way. For example, maybe you set a goal to enter and place in a local bodybuilding show. It turned out that you came in dead last and felt terribly embarrassed. But consider what really matters—did you significantly improve you physique in the process of pursuing the goal? If so, you efforts were totally worthwhile. In general, "process oriented" people tend to be more effective than "results oriented" creatures. Develop the habit!

Are We Still on the Right Road? Monitoring Status and Adjusting for Errors

Once you've created your plan, you need to have a reliable way of assessing whether or not it's working. This involves testing quantifiable outcomes on predetermined dates, and then implementing changes if these tests fail to reveal appreciable progress. When implementing these changes, it is critical to change only one element at a time, while holding all other variables constant. A pseudo-placebo effect often ensues when an athlete starts taking an expensive new supplement, and, in an effort to maximize his gains, also starts to eat better and train harder as well. Then, when results do indeed surface, the supplement gets the credit when in fact, it may have had insignificant impact on the results.

Record keeping is a critical factor in the success of athletes. I keep precise records on all my athletes, as well as for myself. Accurate records not only tell you what's working, but also what has, and has not worked in the past. To me, failure to keep records is like failing to record transactions in your checkbook. Sounds crazy, right?

Never Been Here Before! PR's: Your Own World Records

In the realm of sport, nothing compares to those rare moments when existing World records are broken. Only the rarest of human beings can do it, and even then, only rarely. Personally, I never considered it relevant as to whether or not I could ever break a World record (fortunately, it turns out!). What really matters is this: can you exceed your lifetime best performance? If you can, you're making progress, and getting ever closer to your ultimate destination, whatever that happens to be.

Perhaps the most exciting aspect of EDT from a motivational standpoint is that each and every workout, you'll be breaking your previous PR's for the exercises you're using. Each and every workout, you have specific goal to achieve. When you have a clear purpose, it's much easier to devote yourself to the task.

You've Arrived at Your Destination—Now What?

Maybe the scariest aspect of goal orientation is the moment when you achieve your goal. What's the next step?

My suggestion is that you document your success— use your training log or tracking software if you use such tools. This act enables you to review your goal from inception to completion. It also fosters belief in your own abilities, especially as you accomplish more goals. Why do you think it's so universal that kindergarten kids receive "stars" or similar tokens as testament to their accomplishments? Why do you think Weight Watchers awards 10, 20, 30-pound (and so on) ribbons to members when they lose the corresponding amount of weight? The answer is simple— to provide a visual reminder of the accomplishment. You should do the same, as silly as it may sound.

If you goal was designed to be a quantitative measure of a qualitative objective, did the fact that you accomplished the goal fulfill the objective? For example, if your objective was to increase the size of your quads and hamstrings (qualitative), and you established a goal to increase your back squat by 50 pounds in six months (a quantitative goal), did the gain in your squat performance correlate with significant leg mass? If not, was accomplishing the goal worthwhile anyway, for other reasons? If the answer to either or both of the above is "yes," you now have solid information to base further goal setting on.

Goal orientation is truly an autotellic activity— in other words, it has intrinsic value above and beyond the expected outcome. History shows that individuals facing specific challenges, which must be solved within a specific time frame, are able to mobilize seemingly impossible resources to achieve their objective. Conversely, individuals who rarely face such challenges never reach even a small percentage of their true potential.

Just like muscle, goal-orientation responds to training— the more you do it, the stronger it gets. The more difficult the challenge, the more you'll learn how to "raise the bar" and set new standards for yourself. If you still find yourself thinking, "Jeesh— this seems really involved and complicated!" consider the following question: Will you be more successful as a goal-oriented athlete, or an athlete with no goals? I'll let you be the judge.

Coming Up Next...

In Chapter Three, I'll explain the critical distinction between activities and behaviors, and why success in the former requires refinement of the latter. It's called Behavior-Based Training, and it has to potential to completely revolutionize your training results.

3

Why Your Training Is Not Just A "To Do" List But Rather, A Change In Your "Behaviors."

Before a new building can be erected on a site where an older building exists, the older building must be demolished first.

In much the same way, I'm going to start this chapter by demolishing a dearly-held myth that many trainees have regarding their avocation of choice:

"I'll finally reach my goals when I find the perfect training (or nutritional) program." WRONG

Look, it's not your fault—I've been there too. I've had the experience of discovering some unique program in the latest muscle magazine that some super stud athlete supposedly used to transform himself from nothing to something. Even today, when I run across a unique training concept or program, I still salivate at the discovery—anticipating the workouts, the novelty of a new program. Problem is, you have to clarify your objective: is your passion in life intellectual masturbation, or breaking through long-standing plateaus to new PR's? If you answered the latter, read on.

Performance (or progress) Improves Only When Weak Links Are Identified And Fortified.

It's pretty much this simple: if you want your chain to lift heavier weights, you've got to inspect that chain link by link, and identify the weakest segment in that chain. Then you've got to find a way to make that segment as strong, if not stronger than the others. Then you've got to find the second weakest link and repeat the process, which, incidentally, never ends. NOTE: Aside from

avoiding habituation (the body's ever-decreasing reaction to repetitive, unchanging stimuli), the most important reason for altering training programs is to account for the continuous introduction of "new" primary weak links).

Hunting For Kingpins

In the logging industry, professional loggers have a very effective way to figure out how to clear huge log-jams as they attempt to send large numbers of trees down the river. What they do is to go downstream and find the "kingpin:" this is the single log which, if re-positioned ever so slightly, will restore the flow of logs down the river.

In much the same way, you'll need to find your own personal kingpins if you ever expect to accelerate your own rate of progress.

Some theorists suggest that one should ignore weaknesses and instead, focus on strengths. However, from my experience, a strength overused becomes a weakness. In assessing your own situation, determine whether or not the weak link is CORRECTABLE. If not, don't worry about it. If so, make it the number one priority until it is no longer your weakest correctable link.

The Q2 Prioritization Rule:

This is a strategy that I developed from my work with Olympic and professional athletes, as well as members of my private coaching group. In essence, the rule states that one should prioritize training elements (which could refer to habits, behaviors, muscle groups, motor qualities, etc) which are:

- Needed
- Under-developed
- Highly trainable
- Foundational to other elements
- Given available resources

As a brief explanation, let's look at the motor quality of maximal strength. For many athletes, it is needed AND underdeveloped. It is also quite easily improvable compared to some other

motor qualities (such as speed, which has significant genetic constraints). Maximal strength creates a base for the development of speed-strength, hypertrophy, strength-endurance, and can also help athletes avoid injuries. Finally, maximal strength can be developed using very rudimentary equipment such as barbells and dumbbells. So, it's clear that for many trainees, maximal strength should be prioritized according to the Q2 Prioritization Rule.

Most People's Weak Links Relate To BEHAVIORS, Not Activities

Most people, when examining their own training experiences, will notice that they have made acceptable levels of progress using all manner of training systems and approaches. Most will attribute this phenomenon to the fact that ANY new program will provoke an adaptive response (at least temporarily), simply due to its novelty. However, I do not believe the novelty of a new training stimulus is sufficient to explain this observation. Instead, I propose that whether or not someone is successful during any given training program has less to do with the program per se, and more to do with the PERSON (and specifically, his or her behavior) as the program is carried out. Now, of course, I'm not saying that intelligently designed training programs aren't important—after all, I've created a career out of designing programs and teaching program design. I'm simply saying that for many people, developing better behaviors will have a greater payoff than looking for better programs (activities).

The Seven Behaviors of Highly Successful Athletes

There are many behaviors that lend themselves to successful training outcomes. For the purposes of this column however, I'll focus on seven behaviors which I believe are tantamount for unprecedented levels of success:

1) *Delayed Gratification.* It has been said that the pain of self-discipline weighs ounces while the pain of neglect weighs tons. Maturity is defined by the willingness to sacrifice now in order to experience a greater outcome in the future. This applies especially to nutrition and supplementation, since the positive outcomes of a sound nutritional program take weeks, if not months, to experience.

2) *Consistency.* Training is a form of motor learning, and learning requires repetition. Training consistency can be dramatically enhanced through a variety of techniques, but one of the most powerful methods is also the simplest: scheduling.

There is a VAST difference between thinking, "Tomorrow I'm going to work out." and "My workout is between 7-8am tomorrow morning." In the first case, you might have a vague time frame in mind, say 8:00am. However, by 7:30, you're behind schedule, so you reason to yourself that you'll train after work. Then, by the time you leave work, you realize that you didn't bring your gym clothes with you, so you think, "I'll just train after dinner." And of course, after dinner, you're tired and distracted by the television, and guess what? You missed your workout! Now, you might rationalize that you'll just do the workout tomorrow instead. This leads you to the incorrect assumption that you simply rescheduled your workout rather than skipping it, which is exactly what you did.

On the other hand, knowing that you have a workout (or a meal) scheduled at an exact time, you'll be much more likely to prepare for and keep your appointment. If you DO fail to keep to the schedule, you'll be much more likely to feel a sense of consequence for your decision.

3) *Goal-Directedness.* The failure to develop goal-directed behavior accounts for more failure than all other causes combined. Most people understand that goals much be specific, measurable, attainable, relevant, and time-referenced (S.M.A.R.T.), however, many people fail to carefully weigh the benefits of achieving the goal versus what must be sacrificed. If, upon careful inspection, you are deeply convinced that the benefits justify the sacrifices, you'll create the psychic and emotional fuel necessary to sustain your motivation when the going gets rough (as it inevitably does!).

4) *The Autotellic Mindset.* Autotellic people do things primarily for their own intrinsic value, whereas exotellic people do things primarily for the secondary, external reward. In my experience, autotellic athletes are far better able to sustain their motivation. The take home lesson is this: people who

just LOVE to train go much further than those who just want to look better.

5) *Open-Mindedness.* Closed-mindedness is, in my opinion, a genetically-ingrained survival trait. Thousands of years ago, a Neanderthal man looked under a rock and found some grubs to eat. The technique obviously had value, and it made more sense to look under more rocks than it did to look up in the trees. But for this Neanderthal to go beyond mere survival, he should in fact look up in the trees, for if he did, he might find better food choices. In many ways, athletes are the same way. At some point in their athletic careers, they are convinced to train in a certain way, and because this way lead to a certain degree of success, they now pronounce this "way" as the "only way." So remain receptive to new ideas, because usually, the thing you're looking for is where you aren't looking!

6) *Fatigue Management.* We LOVE to feel "fragged" after a workout, so much so that subconsciously, we tend to actually modify the workout to produce more post-workout fatigue, rather than to permit a better training performance. When you're trying to do gradually more and more work from session to session, fatigue-management skills are essential.

7) *Lifestyle.* Many athletes spend untold hours examining and re-examining their training, nutrition, and supplement schedule, while at the same time completely ignoring the fact that their life is *antagonistic* to their training efforts, rather than *supportive* of them. Late night partying, exhausting job schedules (I know what you're thinking here, but jobs CAN be changed if you have a good-enough reason), and general inefficiency can wreak havoc on the best-laid plans.

Putting The Concepts Into Action

Where to go now you're wondering?

Here's my suggestion to anyone who's serious about optimizing their training-related behaviors is to do a simple self-evaluation inventory. After giving it some careful thought, make a list of your 3 most destructive behaviors. Rank them from best to worst. Next,

consider the root causes and possible remedies for these behaviors. Can you develop substitutes or alternatives?

Coming Up Next:

That's your homework for this chapter. Next we'll examine some of the most common day-to-day mistakes that almost everyone makes, and also how to avoid them through intelligent decision-making.

4

The Classic Things You Will Do To "Shoot Yourself In The Foot"

Former World karate champion and popular action star Chuck Norris was once asked if he ever made mistakes, upon which he replied "no." Seeing the surprised and somewhat incredulous reaction of the interviewer, Norris continued by explaining that sure, he makes mistakes all the time, but only once. Norris' feeling was that if you learn from your mistakes in order to avoid making the same ones again in the future, they really didn't count as mistakes.

We all like to take a certain amount of pride in doings things right. However, let me assure you, even the smartest, most dedicated trainees make lots of mistakes on an ongoing basis. That's why even the best athletes have coaches. In fact, the better you are, the more important it is to have a skillful coach— someone who's been down the road you're traveling and who can point out the various obstacles along the way. If you can intuit the logic in my argument, I'd like you to allow me to be your coach for a moment as we explore the various errors that people make in their quest for physical perfection, and how to either avoid them in the first place, or to learn to substitute more productive habits and behaviors in the future. What follows are the ten most common and also most significant mistakes that well-meaning gym rats make day in and day out. Odds are, you're guilty of at least three of them, no matter how disciplined and careful you are. So please read on, because the information in this chapter may save you enormous amounts of time and energy as your pursue your training goals.

CLASSIC MISTAKE NUMBER ONE: NO GOAL

All good plans start with a clear, concise picture of the desired objective. In stark contrast to this, I can't tell you how many times I've been setting up on a particular station in the gym when I overhear a conversation like this on the machine next to me:

"So, what ya wanna work today?"

"Dunno, maybe chest?"

"Ummm…I guess so…tryin to remember when I did chest last…how about arms?"

"OK, cool, what exercise ya wanna do first?"

And on it goes as I shake my head in a combination of amusement and pity.

When's the last time you jumped in the car and drove without knowing where you were going? Never? OK, then when's the last time you did a workout without having a crystal-clear objective? Always? I thought so.

EDT offers a better alternative: Each workout, you'll pull out your training log and find your most recent workout of the same type. For each PR Zone, you'll note the weightload you used and the total repetitions you achieved.

You now have a specific objective for your next workout: perform more total reps with the same weight in the same period of time. It's not easy, but it is simple and brief (hey, two out of three ain't bad huh?)

Additional suggestions:

- ✧Please review Chapter Two (Goal-Directed Behavior) and determine at least 3 significant ways to apply the principles to your next training cycle

- ✧Make sure your training journal is durable and functional, regardless of whether or not you use a spiral-bound notebook, tracking software, or some other form of record-keeping.

✧Challenge yourself by aiming for big numbers each workout—the only difference between successful people and everyone else is the size of their goals…make sure your goals are worthy of your complete dedication.

CLASSIC MISTAKE NUMBER TWO: SACRIFICING QUALITY TO QUANTITY

This is both the most common and most costly mistake that most gym rats make.

More isn't better— BETTER is better! Here's a common example of the quantity-mindset at work:

The typical trainee who can do 4-6 chin-ups and who wants to do 10. Typically, he'll simply try to add another rep every time he does chin-ups (increasing quantity). Better way: to decrease quantity by dropping down to sets of 1-2 reps. You'll be less fatigued, and therefore more able to recruit your fast-twitch muscle fibers, which have the best potential for size & strength gains.

Bottom line: Make sure you do something well, before you do it more.

Tips:

✧If you're not happy with your technique on a particular workout, shoot for a minimal increase in total reps the next time out, and focus your energies on improving your technique instead.

✧Always strive to move weights as fast as possible on the concentric or positive phase of each lift, particularly at the beginning of the stroke. More speed means more tension, which means better results.

✧More intense efforts require even more attention to active recovery (see Chapter Ten for more information on this subject).

CLASSIC MISTAKE NUMBER THREE: FATIGUE SEEKING

The way to assess the effectiveness of a workout (or training system) is by the degree to which it improves the qualities and/or abilities you're trying to develop, not by how much pain it produces.

If your primary goal is to be sore, why not consider taking a job as Lennox Lewis' sparring partner? Muscle grows when you gradually force it to perform more and more work in a given time frame from workout to workout. This requires managing fatigue, not seeking it.

Escalating Density Training features built-in mechanisms to ensure optimal fatigue management, including both innovative loading parameters to active recovery measures such as post-workout cryotherapy. EDT also recognizes that each individual has unique recovery capacities and allows for individualization within the overall EDT training structure.

Suggestions:

- ✧Focus on achievement, not the after-effects of your efforts.
- ✧If you're sore, it is in fact a sign that your muscles are in a repair state— do not train on sore muscles. Instead, wait until you have one full day or no soreness before training the same muscles again.
- ✧When in doubt, aggressive personality types should err on the side of doing less, whereas more tentative individuals should err on the side of doing more.

CLASSIC MISTAKE NUMBER FOUR: TRAINING IN PAIN

In my opinion, the timeworn expression "no pain, no gain" is at the root of a lot of bad training decisions. Pain is your body's signal to you that something is wrong. Pay attention! Adjust your workout accordingly, and, most importantly, if you have pain that lasts more than a few days, seek medical attention! It's amazing to see how many people, upon experiencing an injury, simply think "Well, I guess I can't bench anymore, but maybe I can do incline presses." Before long, you'll find that you've "painted yourself into a corner" like a lot of the older guys you see who can now do only 2-3 exercises without pain! Please take not of the following suggestions:

✧Pain that diminishes or disappears after the warm-up should still be taken seriously. The reason is that your body releases histamines during your early sets, which are a natural painkiller. You may be doing yourself harm without knowing it.

✧If you experience sudden, sharp pain in a joint during a workout, stop immediately and apply ice to the area. If you do not experience considerable improvement within a few days, seek medical attention.

✧A feeling of tingling, numbness, or "pins and needles" in one or more extremities should not be ignored—seek medical attention promptly.

CLASSIC MISTAKE NUMBER FIVE: EXCESSIVE FOCUS ON LOAD

I'll never forget the day when, minding my own business at a place called Iron Gym in Goleta, California, a young guy, weighing maybe 165 pounds, asked me if I could spot him on incline dumbbell presses. Although my general premise is that if you need a spotter, you're moving the weights too slowly and should lighten up, I agreed to lend my services anyway. As I follow the guy over to his station, I notice a pair of 110-pound dumbbells laying on the floor next the bench. "Hmmm" I thought. "Wonder what this guy is up to?" I soon found out. To make a long story short, he asked me to hand him the dumbbells one at a time, and after that, I got the unexpected workout of my life as I helped him through 4 forced reps, where I estimate that I lifted about 75 percent of the weight on the first rep, and about 95 percent by the fourth rep! Not all was lost however—that was one of the best trap workouts of my life.

Look, my point in all this is, the amount of weight you can lift does matter, but it isn't the only consideration by any means. A lot of guys for example, will do almost anything to lift more weight, including using powerlifting support gear, significantly reducing the range of motion, and/or using a training partner to help them complete the lift. In each of these examples, you really didn't lift more weight at all—you just appeared to have lifted more!

When you train EDT style, your target weights are clearly defined: choose a weightload that equals or approximates your 10RM for each exercise— in other words, a weight you can lift for 10 reps but not 11. Then, at the beginning of each PR Zone, you'll lift that weight for sets of 5, and over the course of the PR Zone, you'll gradually shift to 4 reps, then 3, 2, and finally, singles, as your fatigue levels elevate. You may rightly question the logic of performing only 5 or less reps with a 10RM weight, so let me explain the reasoning behind this: the training effect you'll gain from lifting any given weight is a factor of not only the load, but also the speed with which the load is lifted. Think of it this way: if I place a 10-pound weight on your foot, no problem. But, if I drop that weight on your foot, big problem! In both cases, the weight is the same, but the speed is different. When you lift a weight as fast as possible on the concentric (or "positive") phase of the lift, you put more tension on the muscles than if you lift it slowly. This allows you to get more done with less weight. It makes your efforts far more efficient, which is the whole point of EDT.

Tips to Consider:

- ✧Your chosen weightloads should enable "brisk" sets of 5 at the beginning of each PR Zone.
- ✧The difficulty of loads selected in antagonistic exercises pairings should be as similar as possible.
- ✧The selected weightloads should allow between (approximately) 60 and 75 repetitions for each exercise within a 15-minute PR Zone.

CLASSIC MISTAKE NUMBER SIX: TOO MUCH FOCUS ON STRENGTHS

Just because you've heard it a gazillion times doesn't make it any less true: a chain is only as strong as its weakest link.

And from my experience, a strength overused becomes a weakness.

Consider the following tips:

- ✧Determine if your weak link is correctable or not (short arms, for example, may be undesirable for a deadlift, but

nothing can be done about it). Focus on correctable weaknesses.

✧Make a list of all the major muscle groups, and then rank them from 1-10 in terms of your own development. Next, take the two lowest-scoring muscle groups and allot one training day a week where you work only on these muscles.

✧List your five least productive habits. Consider how you might substitute more productive habits in their place.

CLASSIC MISTAKE NUMBER SEVEN: INSUFFICIENT DIVERSITY

I'm never asked, "What's the best food," but I'm always asked, "What's the best (exercise, workout, time of day to train, etc)." There's no such thing as one best food because no single food has all the nutrients you need. Similarly, no single exercise or program can be all things to all bodies. The best program is the one you're not doing, and here's why:

✧The effectiveness of any program depends on the degree to which it challenges your body. The problem is that familiar stressors are less challenging, because the body habituates (habituation is the gradual reduction of a response when an initially new stimulus is repeated over and over) to them. Every time you repeat a training program, it becomes less effective.

✧All programs and methods have both negative and positive aspects, no matter how well designed or specific. Too much time on one program, and you'll demonstrate a tendency to habituate to the positive aspects and accumulate the negative ones. For example, if you perform barbell bench presses every week, you may develop an imbalance between the front and rear deltoid muscles, despite the fact that you are not getting stronger on the exercise.

✧Unchanging training routines lead to overuse injuries. Athletes are particularly vulnerable, since their training tends to become more and more specific over time.

People tend to be creatures of habit, but even good habits have a

downside as we've just seen. Be sure to provide for enough variety so that your workouts remain challenging and therefore, productive.

CLASSIC MISTAKE NUMBER EIGHT: LACK OF CONTINUITY

While variation is important, so is continuity. Getting stronger is largely a matter of "motor learning." And this requires repetition, just like any other kind of learning.

If you change exercises every single workout for example, you never get enough practice on any single exercise to get better at it. Similarly, if you mis-interpret the classic texts on periodization, you might make the mistake of training for muscle hypertrophy for 6 weeks, and then maximal strength for 6 weeks, reasoning that maximal strength training is potentiated by a prior phase devoted to hypertrophy development. The only problem is, by the time you're 4 weeks into the strength phase, you're 4 weeks away from the last hypertrophy workout, which means the quality you worked so hard to develop for 6 weeks is now rapidly fading away as you focus on another objective.

Consider these tips:

- ✧One way to strike a good balance between diversity and continuity is to change half of your exercises every 4 weeks.

- ✧Generally, exercises which utilize (relatively) large loads and multiple joints (such as squats and deadlifts, for example), are more difficult than "isolation" exercises, and therefore, should be practiced on a more continuous basis in order to maintain your expertise.

CLASSIC MISTAKE NUMBER NINE: POOR BIOMECHANICS

You can learn a lot from observing others…sometimes by looking at what they're doing right, but just as often, by noticing what they do wrong. And if you use the latter category of learning experience, you'll find most gyms and health clubs to be a wealth of educational opportunity!

Allow me to relate one such example from my own experiences in order to make a point about proper lifting technique: This one goes way back, probably about 1984, in a small gym called (I

believe) Northern Dutchess Health & Fitness in Red Hook, New York. Two young guys were (for some reason) spotting each other on standing barbell curls. They were both using loads that were far beyond what they were capable of lifting, and every single rep required intense partner-assistance and the most horrendous physical contortions you can imagine in order to complete each rep. Over a series of weeks, I witnessed these two guys perform that same workout over and over, and I began to joke to myself that they must have been Russian sport scientists who had devised a stealthy way of protecting their secret techniques— each rep required equal contribution from each partner, making it impossible to determine who was the lifter and who was the spotter!

OK, all humor aside, here are some insights and suggestions on good lifting technique:

✧Generally speaking, if you're lifting a weight correctly, you'll feel tension through the target muscle but no pain or discomfort in the associated joint.

✧Your movement should be precise and consistent from rep to rep, almost like you are a machine. If you find yourself "shaking and quaking" under the weight, it's probably too heavy relative to your current abilities.

✧If it looks wrong, it probably is. For example, if the bar isn't parallel to the floor when you squat, deadlift, or bench press, it means you're applying more force with one limb than the other.

✧Lift light weights as if they were heavy, and heavy weights as if they were light. For example, if you can't lift a 300-pound bar over your head to put it on your shoulders in preparation to squat, don't do it with an empty bar either. Every rep you do should be viewed as an opportunity to perfect your technique.

Regular small doses of steady-state exercise can actually improve recovery, but too much can sap your strength and lead to muscle wasting.

If you compare the physiques of short sprinters against long distance athletes, you'll see that the sprinters are just as lean (if not leaner) than their aerobic counterparts, even though they do little to no aerobic exercise. Extensive and frequent forays into the aerobic zone can cause your body to lose muscle (since muscle weighs more than fat, it is the body's preferred tissue to cannibalize in the interest in lightening the load). If you've been trying (unsuccessfully) to lose 10 to 20 pounds of unwanted fat, think of resistance training as the core of your program, and aerobic exercise as the supplementary activity— not the other way around.

CLASSIC MISTAKE NUMBER TEN: TOO MUCH AEROBIC EXERCISE

Tips:

- ✧If you feel deprived if you can't ride your bike or go out for a run once in a while, consider doing anaerobic intervals instead of aerobic workouts performed at the so-called "target heart rate"—research shows that interval training burns far more calories than aerobic exercise. In fact, if you want to jump on your bike or rowing ergometer (for example), I'd suggest you exercise either below the target heart rate (which will facilitate faster recoveries) or above it (which will facilitate greater bodyfat oxidation).

- ✧Don't jog or run when your legs are fatigued from resistance exercise.

- ✧Vary the content of aerobic exercise rather than doing the same activity every time. Your cardiovascular system doesn't know which muscles are creating the demand.

OK, we've covered most of the preliminaries…so now, let's take a detailed look at what makes EDT truly unique in Chapter Five. Make sure you digest this information thoroughly before proceeding to the actual EDT programs in Part Two of the book…

5

The Heart And Soul Of EDT. Why This Program Works And Why You Should Follow It

WHAT MAKES EDT UNIQUE?

At this point, you're probably wondering what all the clamor is about and exactly what makes EDT so different from every other way of working out. Fair question! Here are

- Unlike all other programs, EDT has "native intelligence." Much like a smart bomb that knows exactly how to get to its target, EDT adjusts to you (rather than the other way around) workout by workout. This means that every workout you do becomes more effective than the one that preceded it. You'll be absolutely assured of always performing the optimal numbers of exercises, sets, reps, and workouts.

- Other programs tell you how many exercises to do, how many sets & reps, and how long to rest between sets. Then you complete that program, regardless of how long it takes. With EDT, you're given set time-frames (called "PR Zones™") and THEN you'll do as many total repetitions as you can in that time frame.

- Other programs focus mainly on manipulating volume (usually by increasing it). EDT acknowledges the importance of both volume and intensity, but focuses primarily on a little-appreciated, yet critically important facet of the training load called "density." Essentially, density is the work/rest ratio of your training. Your arms will get bigger when you force them to do gradually more and more work in the same period of time. Many programs allow this to happen, but EDT FORCES it to happen!

- No other program matches EDT's motivational appeal! Every time you initiate a workout, you know exactly:

  ✧What must be accomplished, and…

  ✧When you'll be finished

Every workout, you'll set a new personal record. And numbers don't lie—when they go through the roof, so will your arm size!

- Most other programs are vague (to say the least) about how to progress your weightloads from workout to workout. This always struck me as being a REAL problem, since progressive overload is the very hallmark of effective resistance training programs. EDT workouts employ what is known as the "Critical Density Index™ (CDI). Very simply, as soon as you can improve your performance by 20% or better on any given workout, you increase the weightload the very next workout by 5% and start the process of setting NEW PR's every workout with this new weight.

- Most other programs instruct you to go to failure (or at least very close to failure) every workout, or at least most all the time. BAD IDEA. Let me provide an analogy to show you how absurd this concept is. Let's say you're a doctor, an office worker, a carpenter, whatever. Do you organize the day's events & activities in such a way that you'll be as tired as possible at the end of the day, OR, do you organize the day's events & activities in such a way that you'll get as much done as you can?!?!?! Obviously, the latter. But when it comes to exercise, almost all of us do the former! Very often, the right way is 180 degrees opposite of what seems instinctively correct, and EDT is just another example of this universal truth: With EDT workouts, the vast majority of sets come NOWHERE NEAR failure! In fact, you'll start with a weight you can lift 10 times, and perform sets of 5 reps with that weight. As you approach the end of each PR Zone™, you will approach, and in some cases, reach failure. But this is a rarity rather than the rule.

PART TWO

The Evolution Of Your Success (The Programs)

"The best program is the one you're not doing."
— The Author

6

Laying The Foundation

Chapters Six, Seven, and Eight contain the three successive EDT arm workout cycles, starting with the entry-level cycle presented here in Chapter Six.

By "entry-level," I don't mean "beginner" or "easy"—far from it. This introductory cycle will leave your bi's and tri's screaming for mercy, believe me. In this case, I've chosen the phrase entry-level to indicate that it is the suggested starting point for those trainees who are unfamiliar or new to the EDT system. This cycle serves to introduce the concepts and somewhat unusual loading parameters used in EDT with a minimum of confusion. Once you've mastered the system, you'll move on to the second and third cycles as you travel the path to unprecedented levels of muscular growth.

The EDT arm specialization mesocycles presented in Part Two of the book consist of two workouts a week, separated by 2-3 days of rest between workouts. It's important to note that there are no "set" loading parameters in the conventional sense (see "EDT Training Procedure" below for more details). Your sole objective is to force-feed gradually more and more work on your bi's and tri's for 8 successive workouts. Couple this with optimal pre- and post-workout nutrition and post-workout cryotherapy, and the result is an average gain of 1/8 per inch per workout. It's that simple (on paper anyway—the trick is to survive it!).

So here's your first EDT arm cycle—Enjoy!

DAY ONE

Pre-workout:

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine (my favorite L-Tyrosine product is Power Drive from Biotest (see resources section for more information Mix the L-Tyrosine in club soda instead of water for better absorption.

First PR Zone (15 Minutes):

A-1: Standing Dumbbell Reverse Curl
A-2: Lying Dumbbell Triceps Extension
B: Consume a "fast" protein/carb shake containing about 15 grams of whey protein and about 25 grams of fast-absorbing carbohydrate (for a 200 pound individual—adjust upward or downward according to your own bodyweight). My preferred product for post-workout nutrition is Surge by Biotest (see Resources section for more information)

Second PR Zone (10 Minutes):

A-1: Low Cable Hammer Curl.
A-2: Straight-Bar Triceps Pushdown
B: Consume a "fast" protein/carb shake containing about 15 grams of whey protein and about 25 grams of fast-absorbing carbohydrate.
C: Post-Workout Cryotherapy: I first learned to appreciate the value of post-workout cryotherapy from Jay Schroeder, conditioning coach for Adam Archuletta, who went on to break the NFL combines bench press record last year. Adam benched 225 pounds for 31 reps at a bodyweight of 212. I subsequently used this method on a number of athletes with great success, including Gea Johnson, who broke the track record in Park City, Utah, during the 2002 Olympic trials for bobsleigh. I use a cryocup (from Cryo Therapy, 1-800-ICE-5722) on each arm—just continue the massage until the cup has entirely melted. Focus on soft tissue, staying away from bones and joints. Concentrate on long, deep strokes, going parallel to the muscle fibers of the biceps, triceps, and forearms. IMPORTANT NOTE: You may recall that in the introduction of this book I spoke about the importance of being willing to pay the price for

extraordinary results. Now it's time to walk the walk. Yes, this will be messy, inconvenient, it looks completely nutty, and, as you'll soon find out, it feels completely miserable—all I can say is just suck it up and do it. Again, do NOT skip this step.

DAY TWO

Pre-workout:

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine

First PR Zone (15 Minutes):

A-1: Incline Bench Overhead Pressdowns
A-2: Lazy Man's Dumbbell Curl
B: Consume a "fast" protein/carb shake containing about 15 grams of whey protein and about 25 grams of fast-absorbing carbohydrate

Second PR Zone (10 Minutes):

A-1: Concentration Curl (Right Side)
A-2: Concentration Curl (Left Side)
B: Consume a "fast" protein/carb shake containing about 15 grams of whey protein and about 25 grams of fast-absorbing carbohydrate.
C: Post-Workout Cryotherapy

EDT Training Procedure

General Notes:

✧The arm training cycles in Part Two of this book are specialization programs. This means that training for other muscle groups should be placed on a maintenance cycle as you focus your resources on arm training. Although there are a number of ways to carry out maintenance training, my suggestion is to maintain the intensity of the training load (i.e., the amount of weight you use) while at the same time reduc-

ing the volume (total amount of pounds lifted, as calculated by multiplying the weight by the total reps performed with that weight) by approximately 50 percent. Using this suggestion, if your "typical" training procedure for a particular exercise is 4 sets of 8 repetitions, then use 4 sets of 4 repetitions using the same weights.

✧The workouts should be performed on non-consecutive days (e.g., Mondays and Thursdays, or Wednesdays and Saturdays).

✧Escalating Density Training is based on the concept of doing more and more work from workout to workout. Therefore, it's critical that your exercise biomechanics (i.e., technique) is consistent on every workout. If you perform strict curls on one workout and loose form the next, you aren't really doing more work (for the arms at least!)

✧I recommend 10-15 minutes of light to moderate cardio, followed by 10-15 minutes of light stretching on "off" days for the purpose of promoting active recovery and reducing soreness.

✧Each workout in this cycle consists of (2) PR Zones of either 10 or 15-minutes duration separated by a short (5-minute) rest periods. In each PR Zone, you'll generally perform two exercises, for a total of 3-4 exercises per workout.

✧In each PR Zone, you'll typically perform two antagonistic exercises in alternating fashion, back and forth, using the same weight for all sets, until the PR Zone has elapsed.

✧After warming up the first exercise(s), select a load that approximates a 10RM for each exercise. Ideally, the weight used for each exercise should be equally difficult.

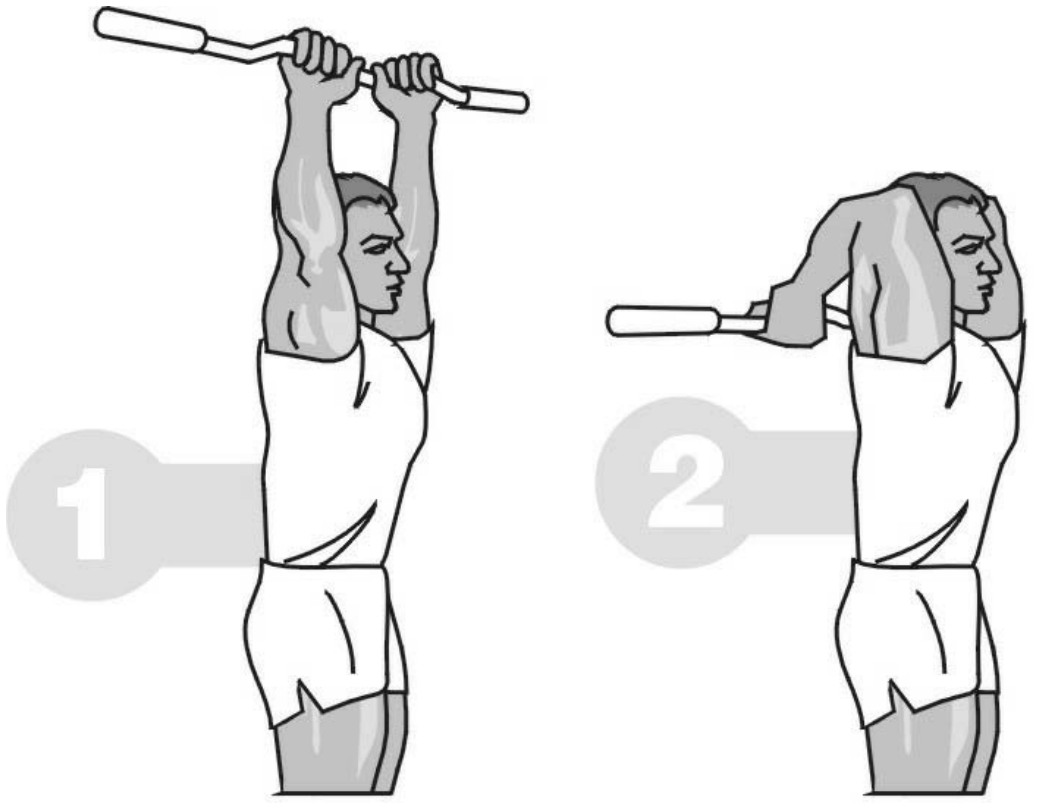
✧Sets/Reps/Rest Intervals: This is where EDT is truly unique. Most people will find it most productive to do higher repetition (but not maximal effort) sets and shorter rests at the beginning, and then gradually progress to fewer reps per set and longer rest intervals as fatigue accumulates. As an

example, you might begin by performing sets of 5 with very short (10-15 second) rests. As you begin to fatigue, you'll increase your rest intervals as you drop down to sets of 4, then 2, and as the time limit approaches, you might crank out a few singles in an effort of accomplish as many repetitions as possible in the time allotted.

NOTE: Do not perform early sets to failure, or even near failure. My recommended starting point is to do 1/2 of what is possible (e.g., 5 reps with a 10RM weight) at the beginning of the time frame. As the time limit approaches however, you'll find yourself working at or near failure as you attempt to break your rep record.

✧Progression: Each time you repeat the workout; your objective is to simply perform more total repetitions in the same time frame. As soon as you can increase the total number of reps by 20 percent or more, start the next workout with 5 percent more weight and start over. Similarly, if you manage to improve upon your last performance (for the same workout) by 40 percent, then you'll increase your weights by 10 percent on the next workout.

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:

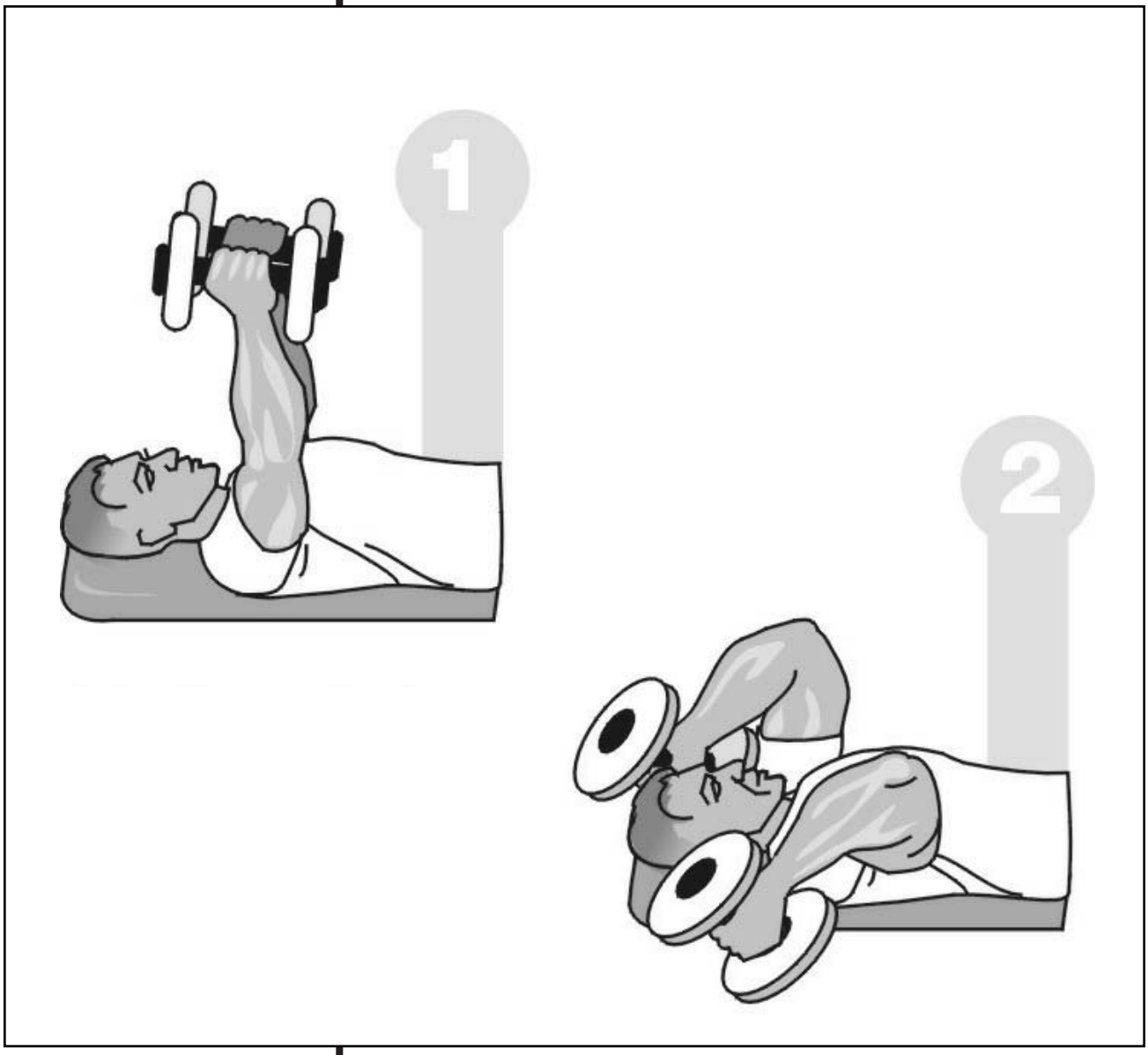


Overhead EZ-Bar Triceps Extensions

Standing Dumbbell Reverse Curl

After gripping the dumbbells firmly with a pronated (palms down) grip, the lifter stands erect, with each elbow pressed firmly to the side of his or her body. Without moving at the shoulders, and with each elbow locked firmly in place, the lifter flexes the arms at the elbow, raising the dumbbells in upward arc until both arms are completely flexed. The dumbbells are then lowered through the same path, and this movement is repeated for the desired number of repetitions.

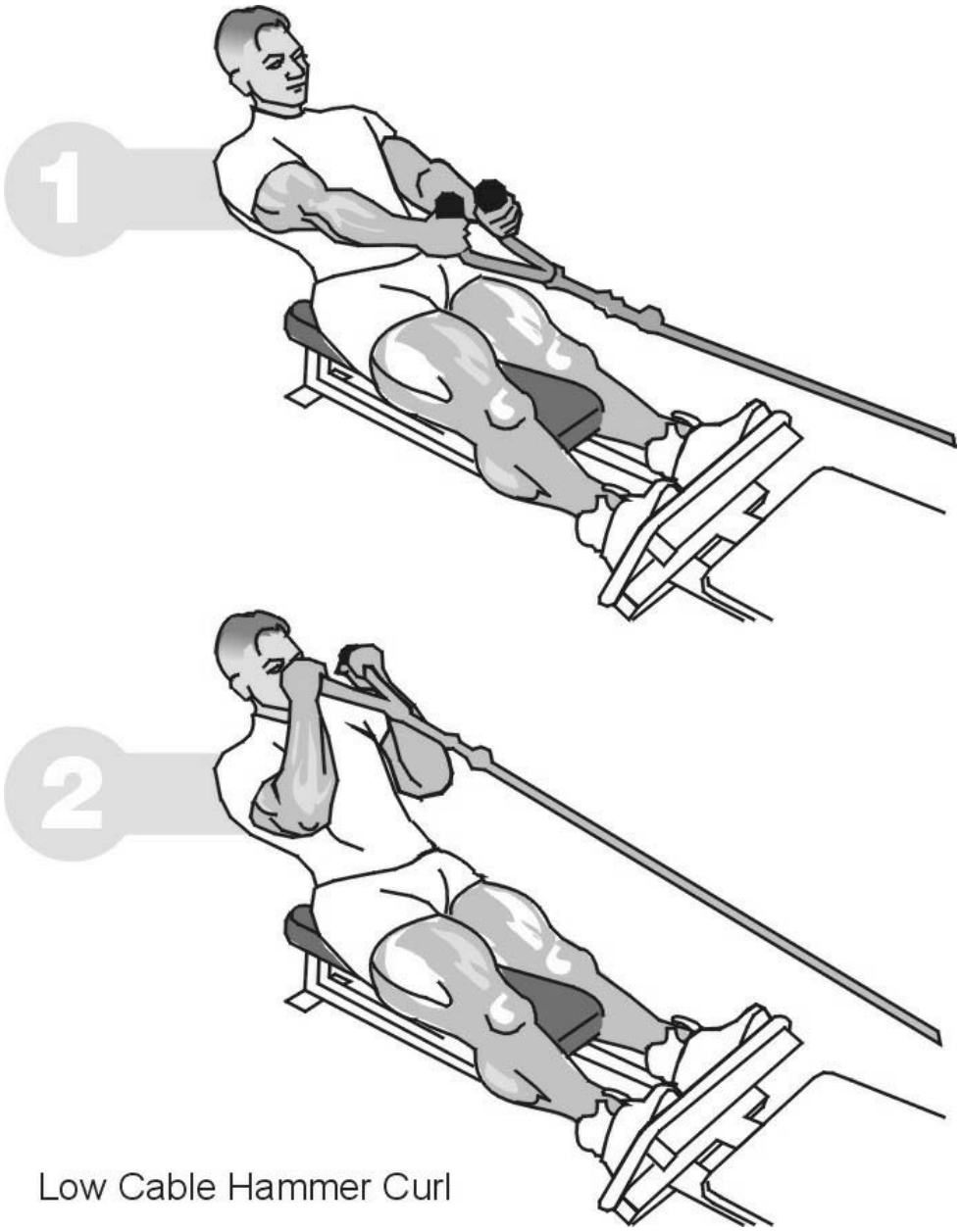
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Lying Dumbbell Tricep Extension

Position yourself face up on a bench or Swiss ball. Using dumbbells (shown) or a straight bar, extend your arms until they are perpendicular to your torso. From this position, relax your triceps to allow your elbows to flex until the dumbbells touch your shoulders (when using a bar, full flexion is realized when your biceps make contact with your forearms). Reverse this action to return to the starting position, keeping your elbows stabilized (motionless) throughout the exercise.

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:

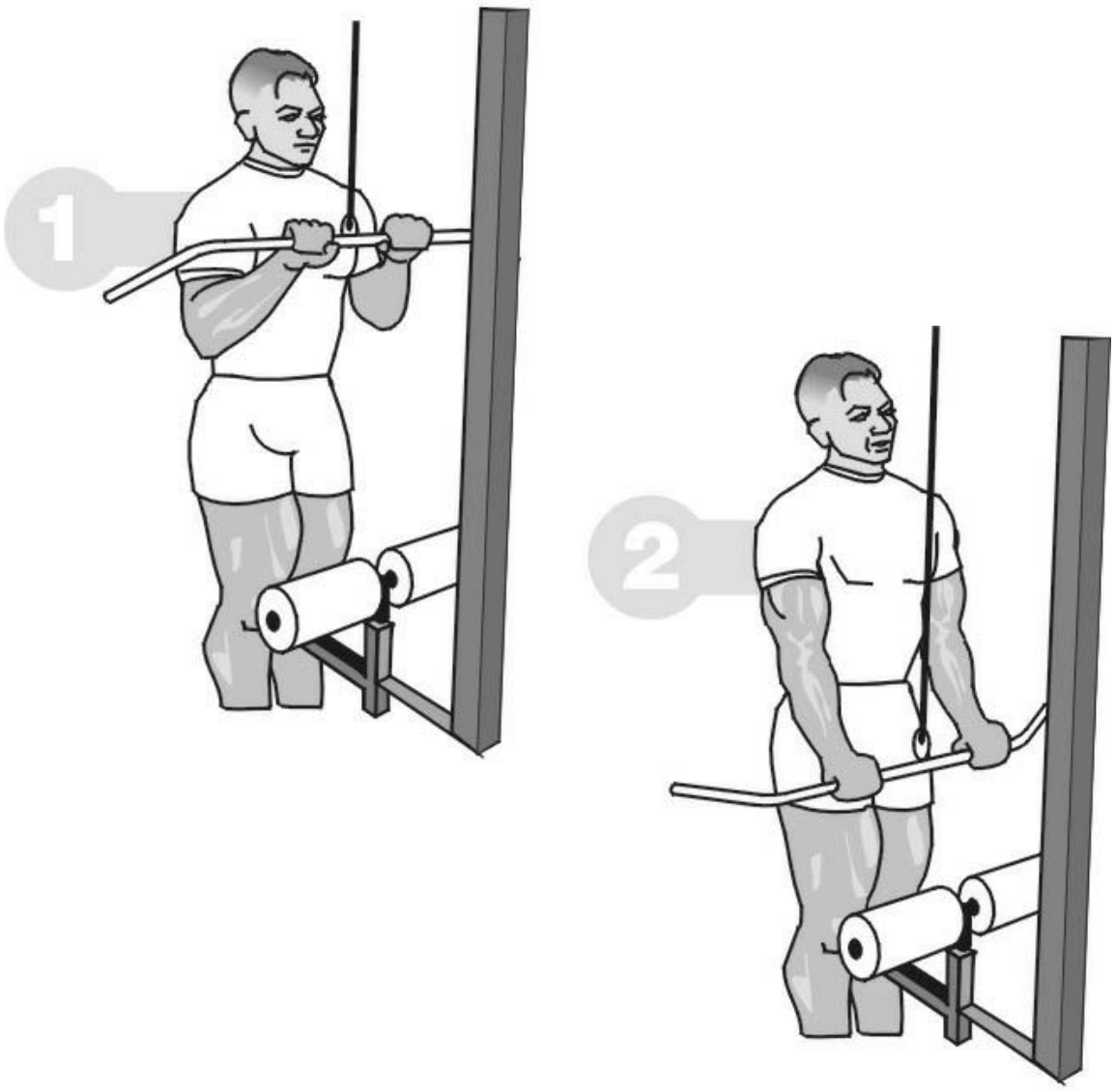


Low Cable Hammer Curl

Low Cable Hammer Curl

Attach a triceps rope to the low cable. Sit on a bench positioned perpendicular to the cable's line of pull. Sit on the bench, bracing the feet against the lower supports of the cable unit. Lean back to a 45-degree angle, anchoring the elbows to one's sides (similar to performing a triceps pushdown), and perform a hammer curl.

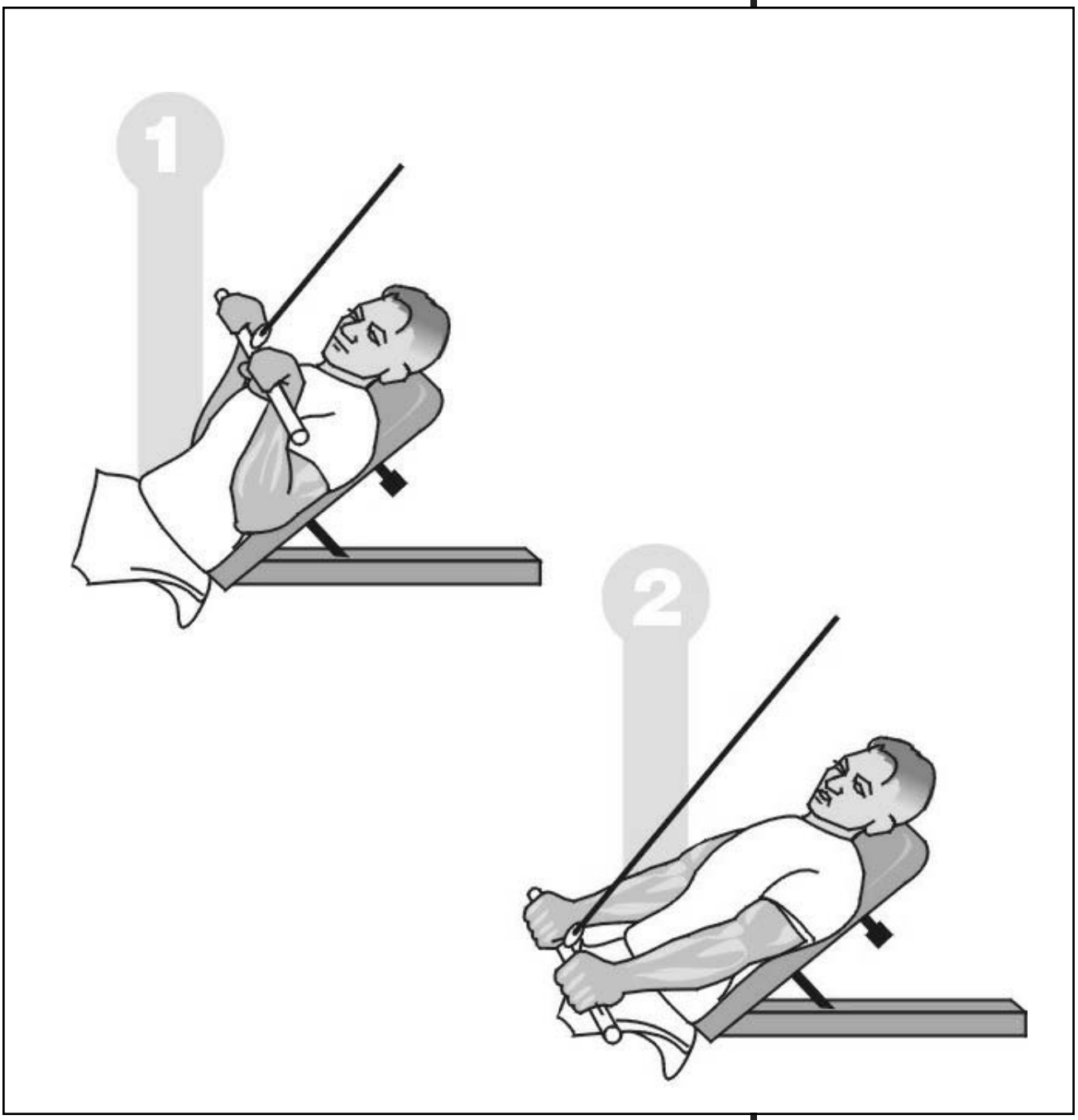
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Triceps Pushdown

Grasp the handle and pull yourself into position using your lats to extend your shoulders until your elbows are against your sides. From here, fully flex and extend your elbows while keeping your elbows "pinned" to your sides. Note: With all triceps exercises, keep the back of the wrists flat.

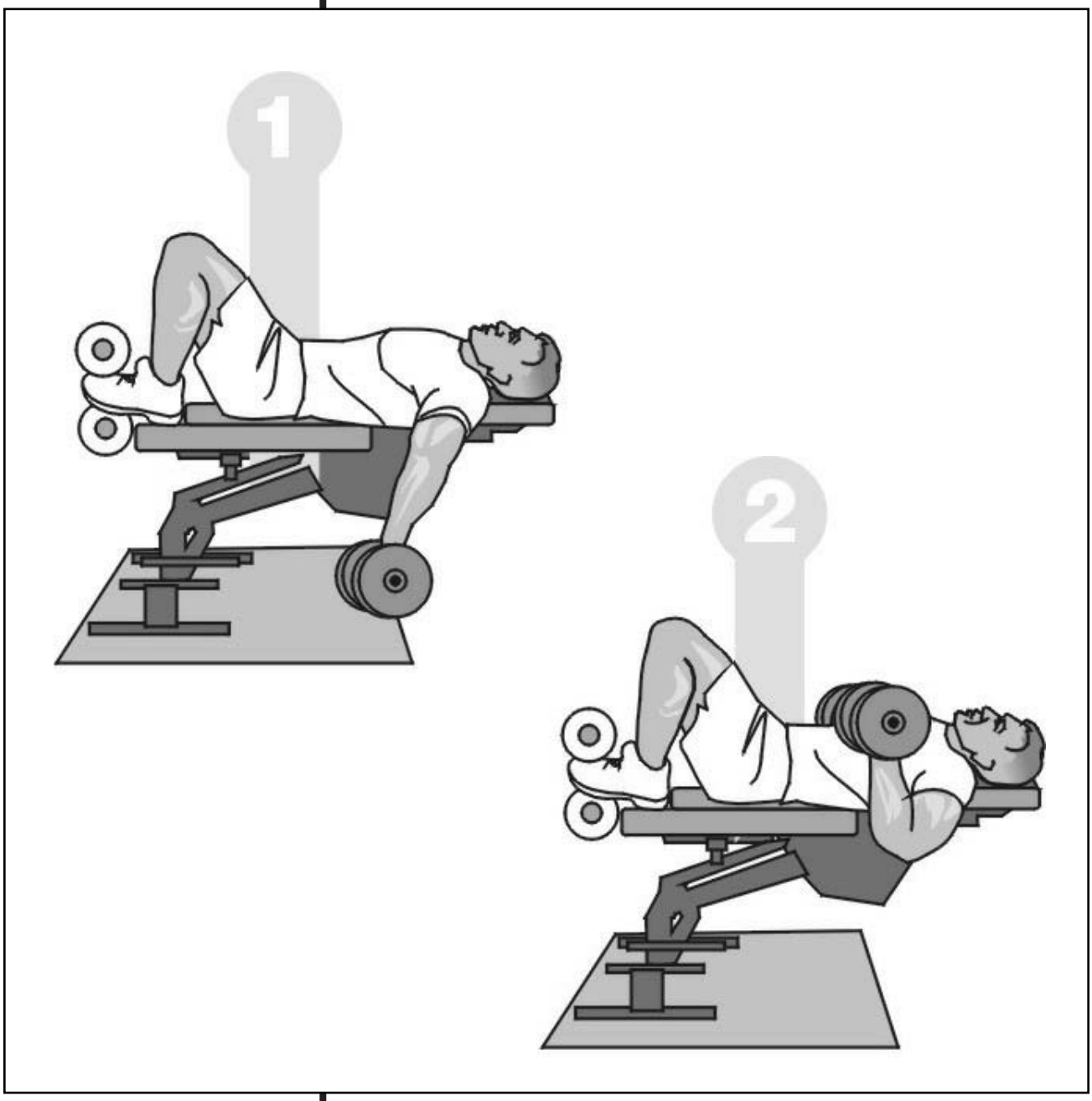
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Place an incline bench in front of a high pulley as shown. Adjust the incline to about 60 degrees. Grasp a straight bar handle and, with your upper arms glued to your torso, extend the forearms.

Incline Bench Overhead Pressdowns

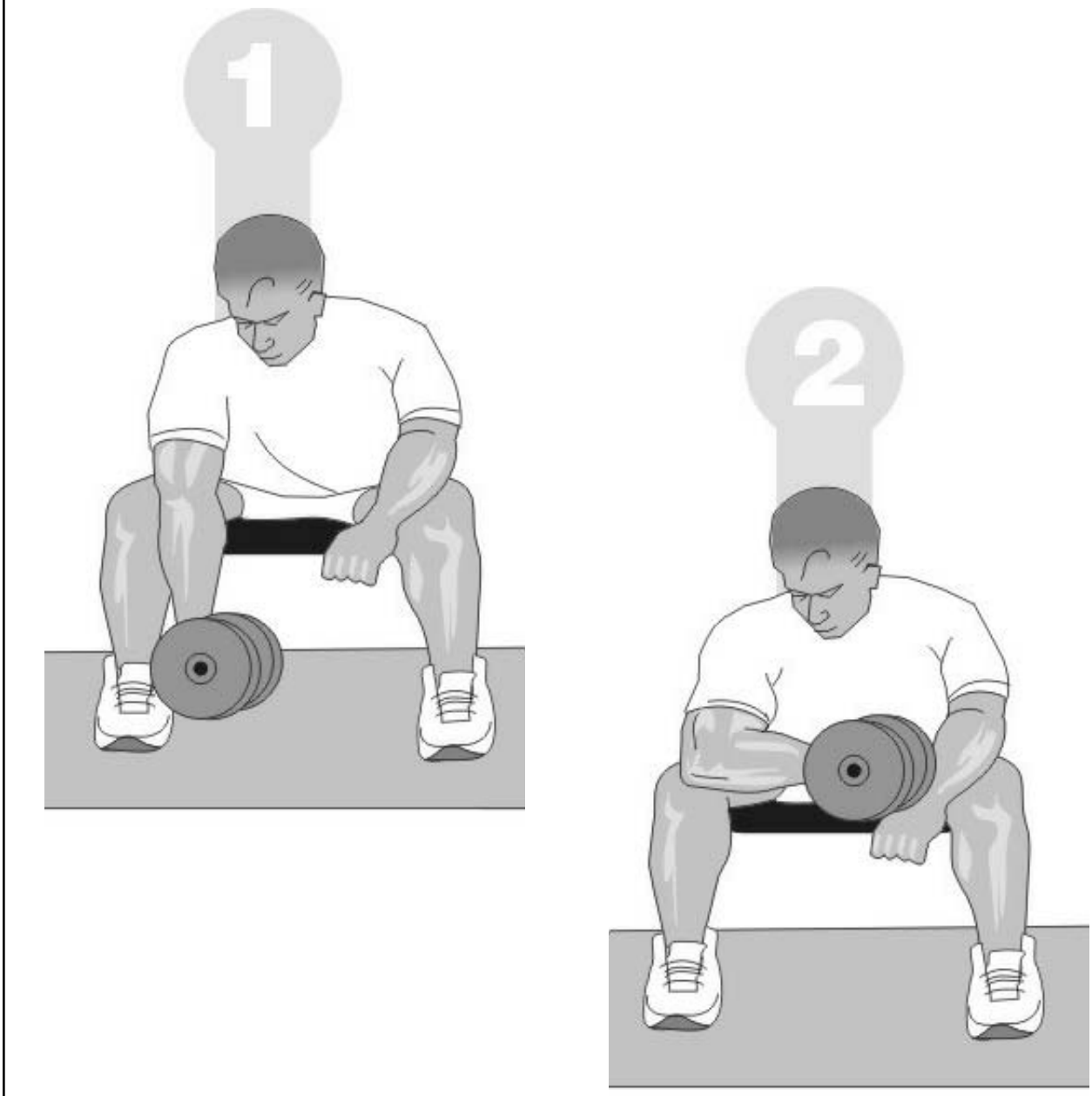
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Lazy Man's Dumbbell Curl

Grab a pair of dumbbells, and lie down with your back and butt against a high bench (as shown). Begin with your arms and dumbbells hanging straight down. Next, simply curl the dumbbells up while trying not to move your elbows forward (or, in this case, up). Keep the wrists neutral and bring the weights up as high as possible.

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



(Directions for right arm) From a seated position, stabilize your right elbow against your right inner thigh, and then curl the dumbbell in standard fashion. Lower the dumbbell by reversing this action, and repeat for the desired number of reps.

Concentration Curl

7

Building The Base For Ultimate Size and Strength

After completing one month of the entry-level EDT arm program, you should be very comfortable with the EDT procedure and ready for the second of three cycles presented in this book.

This cycle, like the last one, consists of two workouts a week, separated by 2-3 days of rest between workouts. Here, you'll move on to different exercises and slightly more volume than what you experienced last month

Here's your second EDT arm cycle—Enjoy!

Day One

Pre-workout:

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine

First PR Zone (15 Minutes):

A-1: Standing Reverse Curl
A-2: Decline EZ-Bar Triceps Extension
B: Protein/carb shake

Second PR Zone (15 Minutes):

A-1: Tricep Kickback (Right Arm)
A-2: Tricep Kickback (Left Arm)
B: Protein/carb shake
C: Post-Workout Cryotherapy

Day Two

Pre-workout:

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine

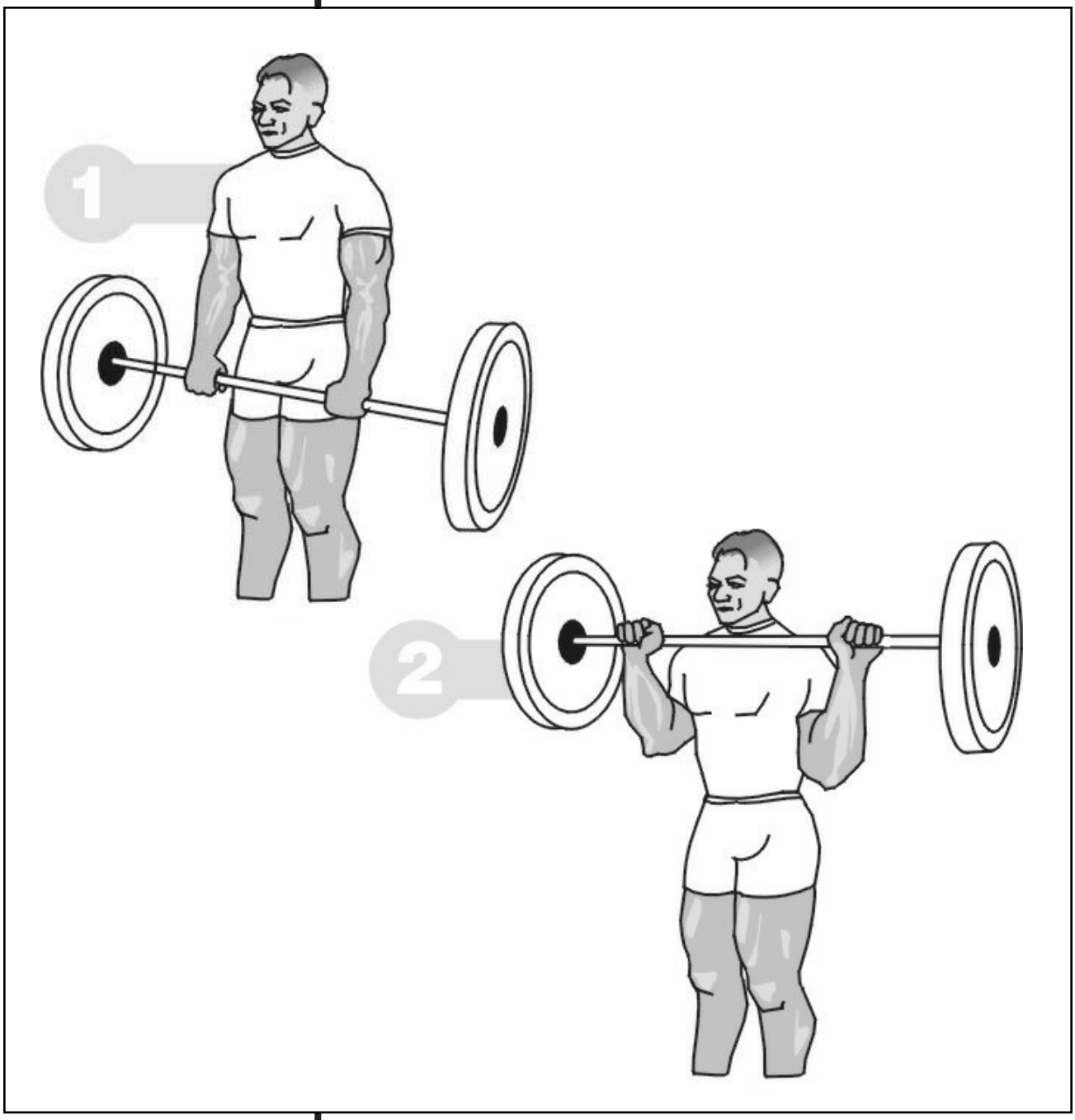
First PR Zone (15 Minutes):

A-1: Close-Grip Chins
A-2: Dips
B: Protein/carb shake

Second PR Zone (15 Minutes):

A-1: Decline Hammer Curl
A-2: Incline Close-Grip Press
B: Protein/carb shake
C: Post-Workout Cryotherapy

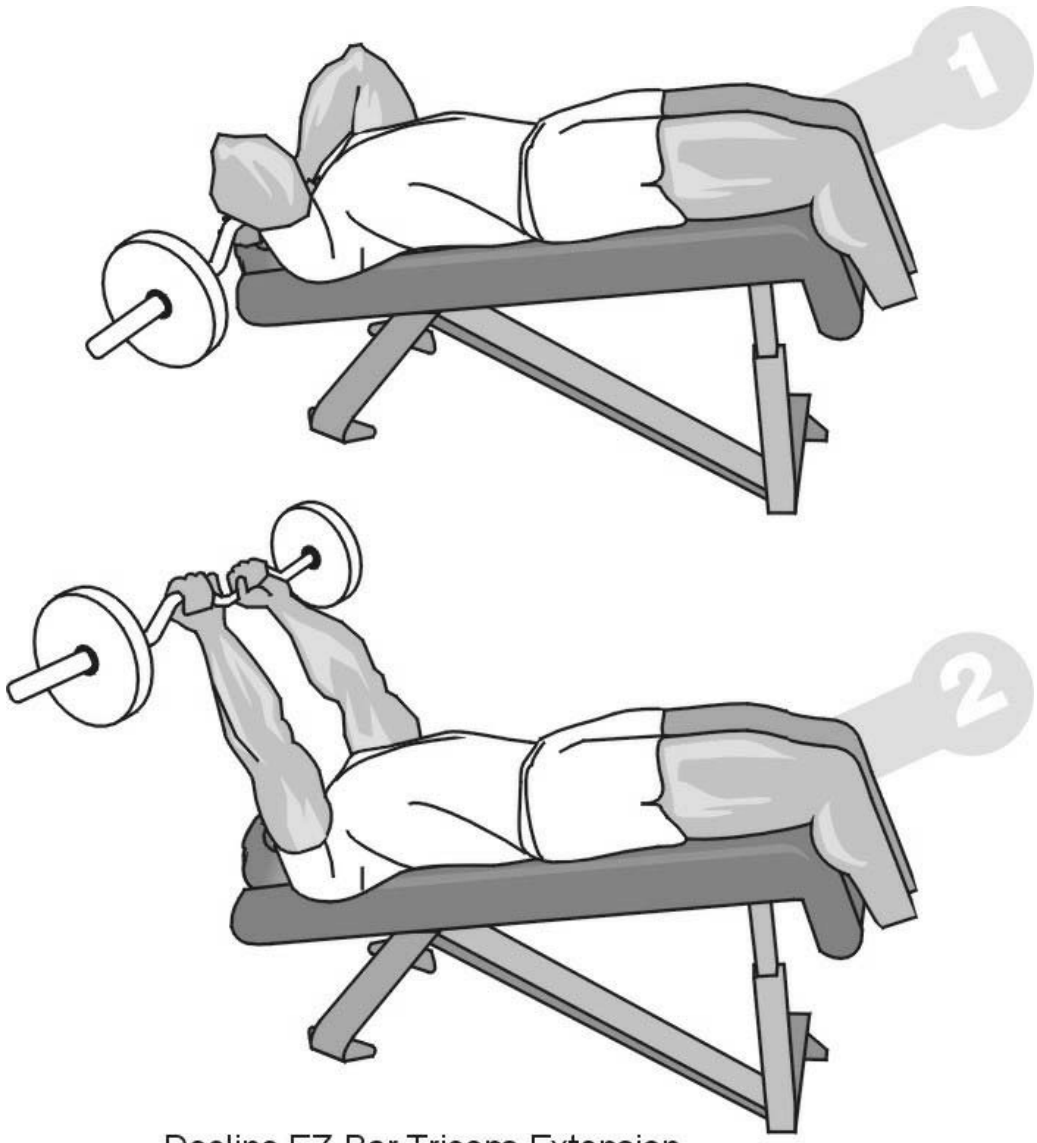
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Standing Reverse Curl

This is simply a standard curl performed with a "palms down" position, which increases the involvement of the brachioradialis muscle (an important muscle for grip strength). Keep your elbows pinned to your torso throughout.

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:

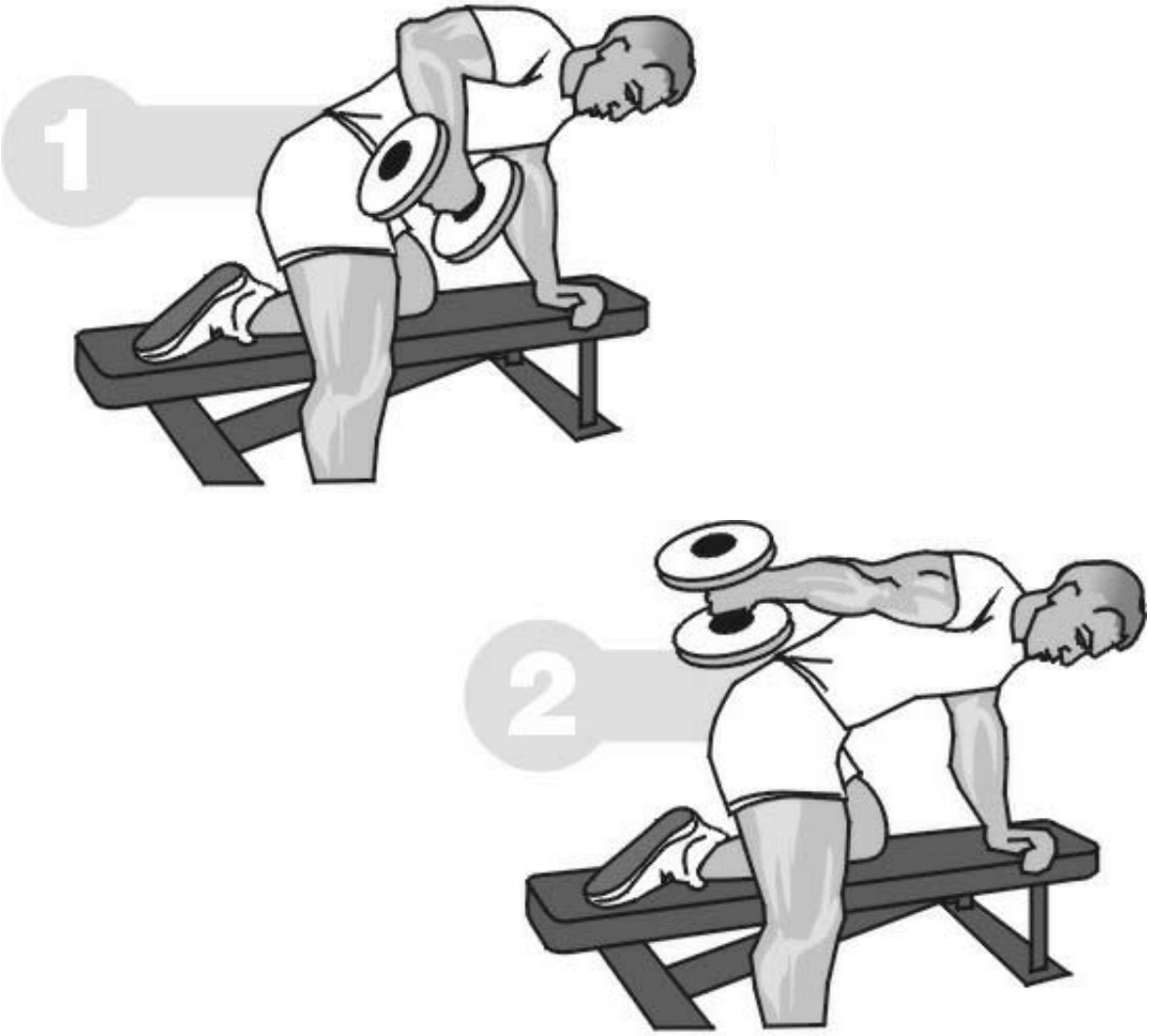


Decline EZ-Bar Triceps Extension

Decline EZ-Bar Triceps Extension

Position yourself face up on an incline bench. Using an EZ bar, extend your arms until they are perpendicular to your torso. From this position, relax your triceps until your biceps make contact with your forearms. Reverse this action to return to the starting position, keeping your elbows stabilized (motionless) throughout the exercise.

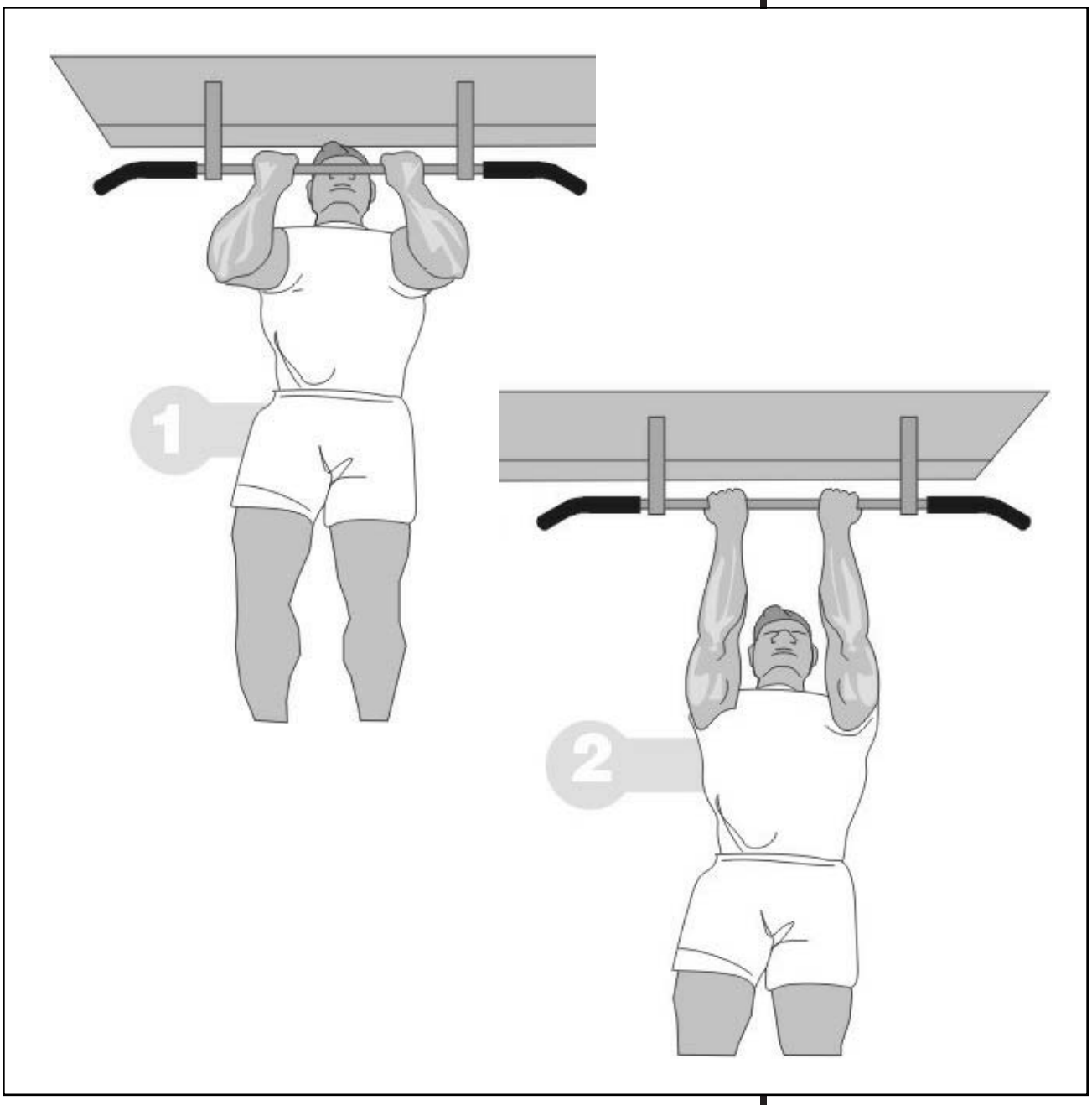
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Tricep Kickback

Grasping an EZ-Curl bar with both hands as shown, assume a seated position at the end of a bench. Press the bar overhead, and then maneuver it behind you. From here, press the weight to a straight-arms position by contracting your triceps, being extremely careful not to lose your grip and risk dropping the bar on your head. Relax your triceps to return to the starting position. Note: your elbows must remain stabilized, pointing to the ceiling, throughout.

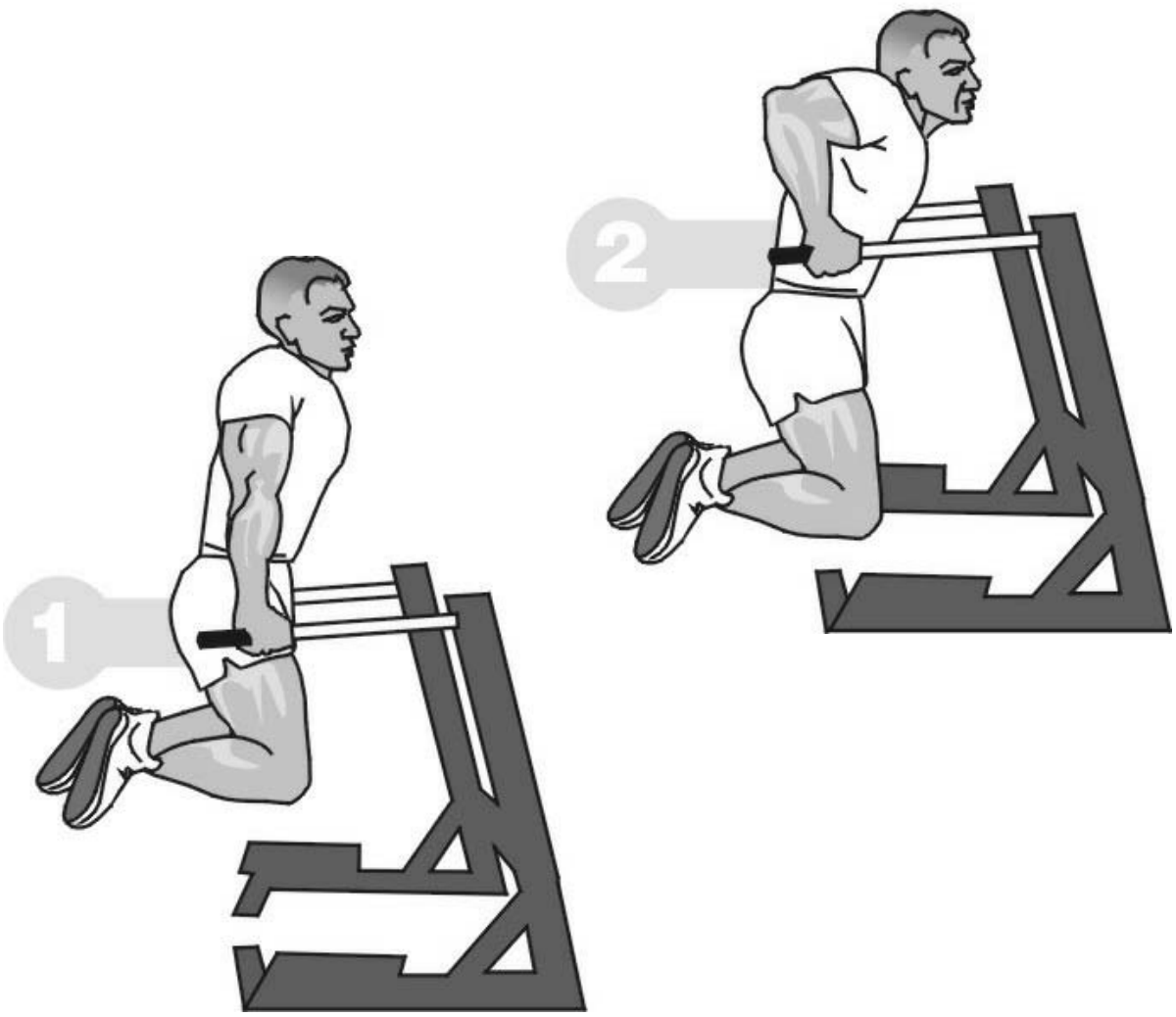
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Close-Grip Chins

Chin-ups are performed with a supinated (palms facing) grip, which maximizes biceps involvement. The closer the grip, the more the biceps are involved—I suggest placing your hands such that they are about 6-8 inches apart for most lifters. Chalk or lifting straps may be used to secure a good grip.

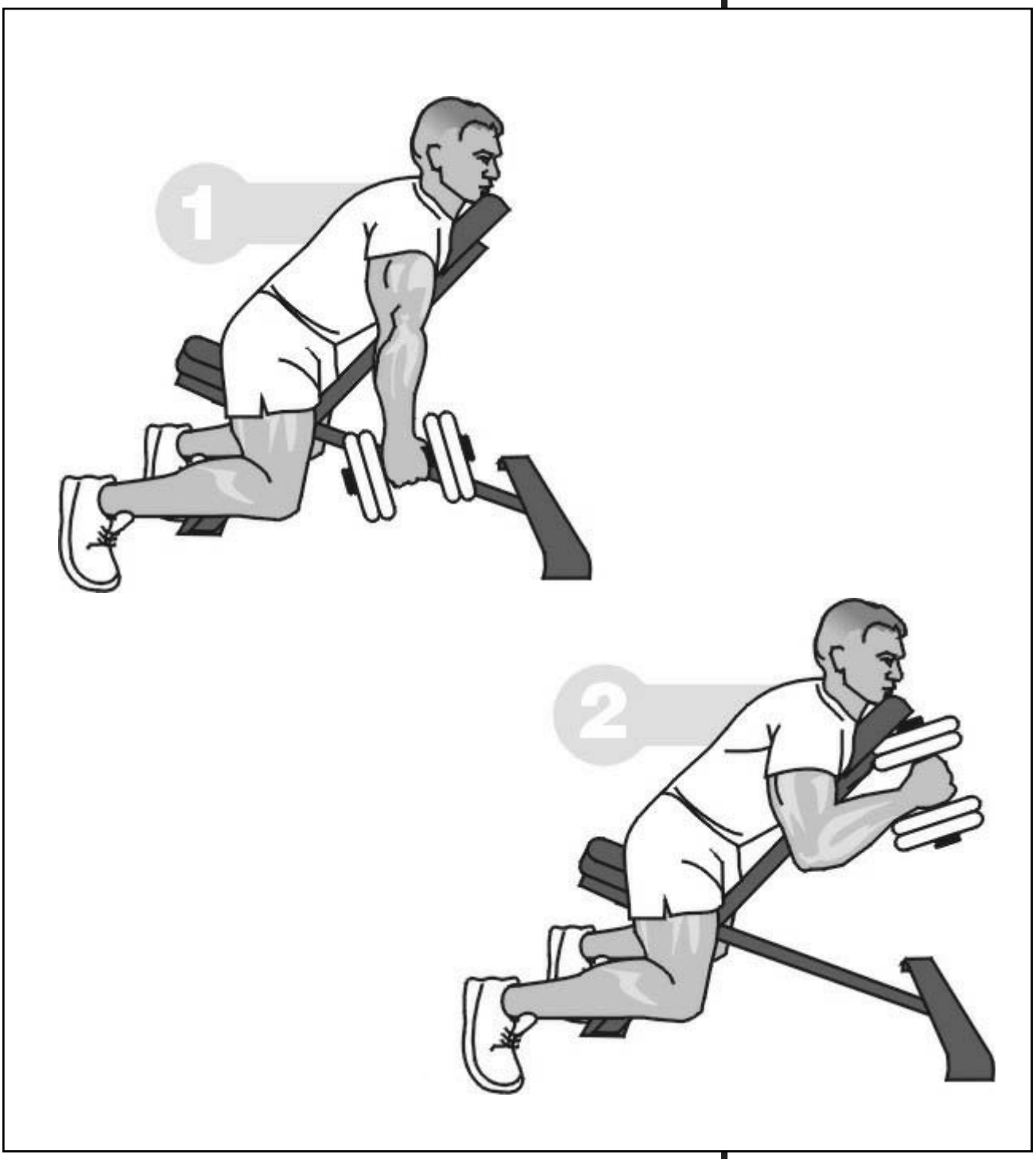
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Dips

Maintain a vertical torso for more shoulder and tricep involvement, and a forward lean to increase pectoral recruitment. Descend slowly and under complete control, and be careful not to exceed your shoulder's range of motion. Return back to the top position by contracting your pecs, deltoids, and triceps. Repeat for indicated number of reps. If needed, extra resistance may be provided through weight plates attached to a belt, or by placing a dumbbell between your calves.

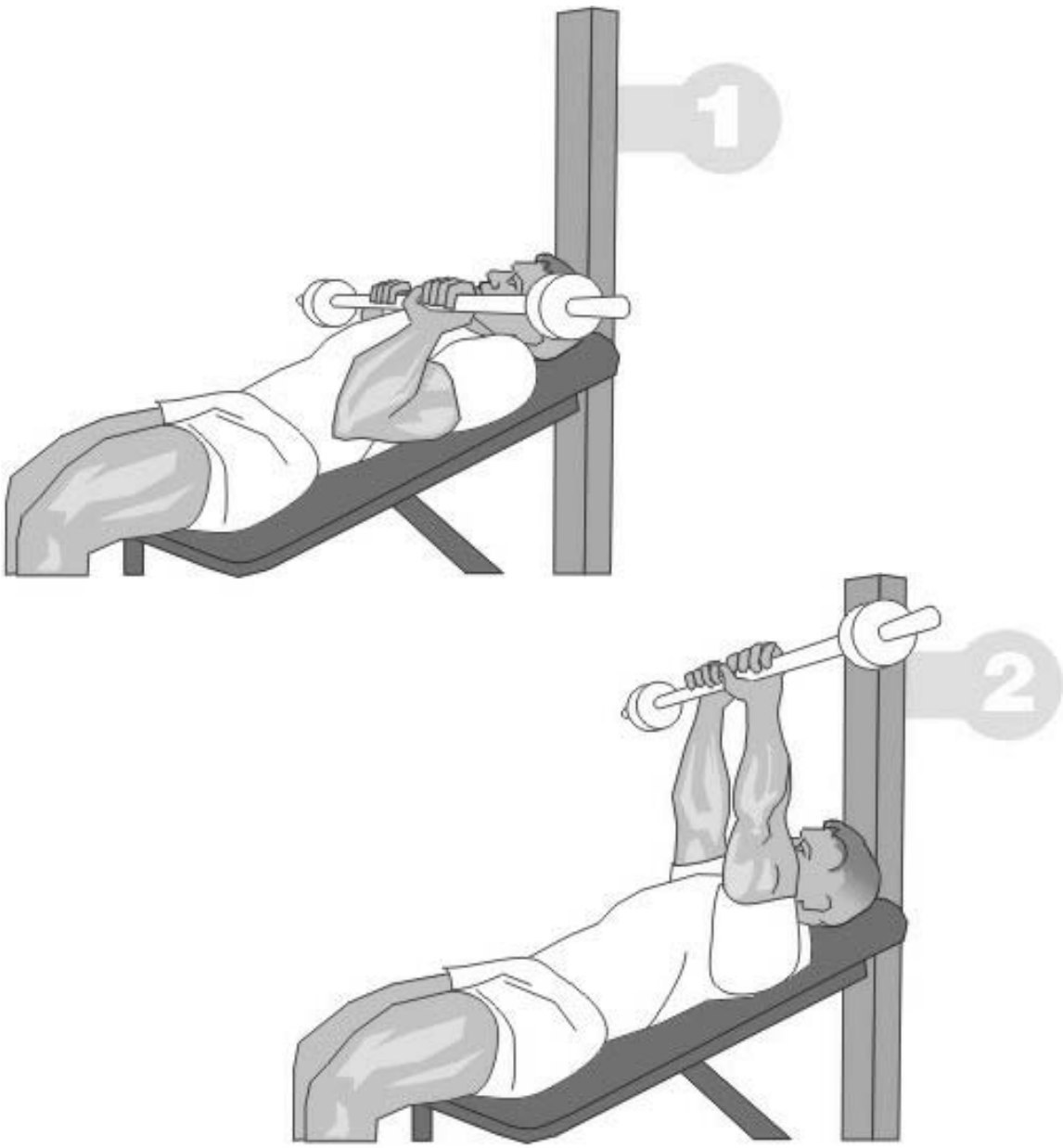
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



This is simply a standard hammer curl, performed while face-down on a bench inclined to 50-60 degrees, as shown.

Decline Hammer Curl

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Incline Close Grip Press

Set an incline bench up with about a 20 degree incline. Take a grip on the bar with hands about six to eight inches apart. If you need to, allow your hands to rotate so that the thumbs come out from under the bar and wrap around the top.

8

Genetics? I Don't Need No Stinkin' Genetics!

After completing two months of the entry-level EDT arm program, you should have mastered the EDT procedure. As well, if you're following my directions explicitly, you should now be in possession of significantly larger arms. In this last cycle, I'll present a few new exercises as well as a new variant on the standard EDT protocol.

NOTE: pay extra-special attention to active recovery this month. This cycle is very demanding, and it must be remembered that your training is only fruitful if you can recover from it.

Here's your third and final EDT arm cycle—Enjoy!

Day One

Pre-workout

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine

Pre-workout

A-1: Very-Wide Grip EZ-Bar Curl;s
A-2: Supinated-Grip Triceps Pushdowns
B: Protein/carb shake

Second PR Zone (10 Minutes):

A: Dumbbell Hammer Curl/Overhead Press
B: Protein/carb shake
C: Post-Workout Cryotherapy

Day Two

Pre-workout:

- 500mg Vitamin C (3-4 hours prior to workout)
- 5,000 to 6,000 of L-Tyrosine

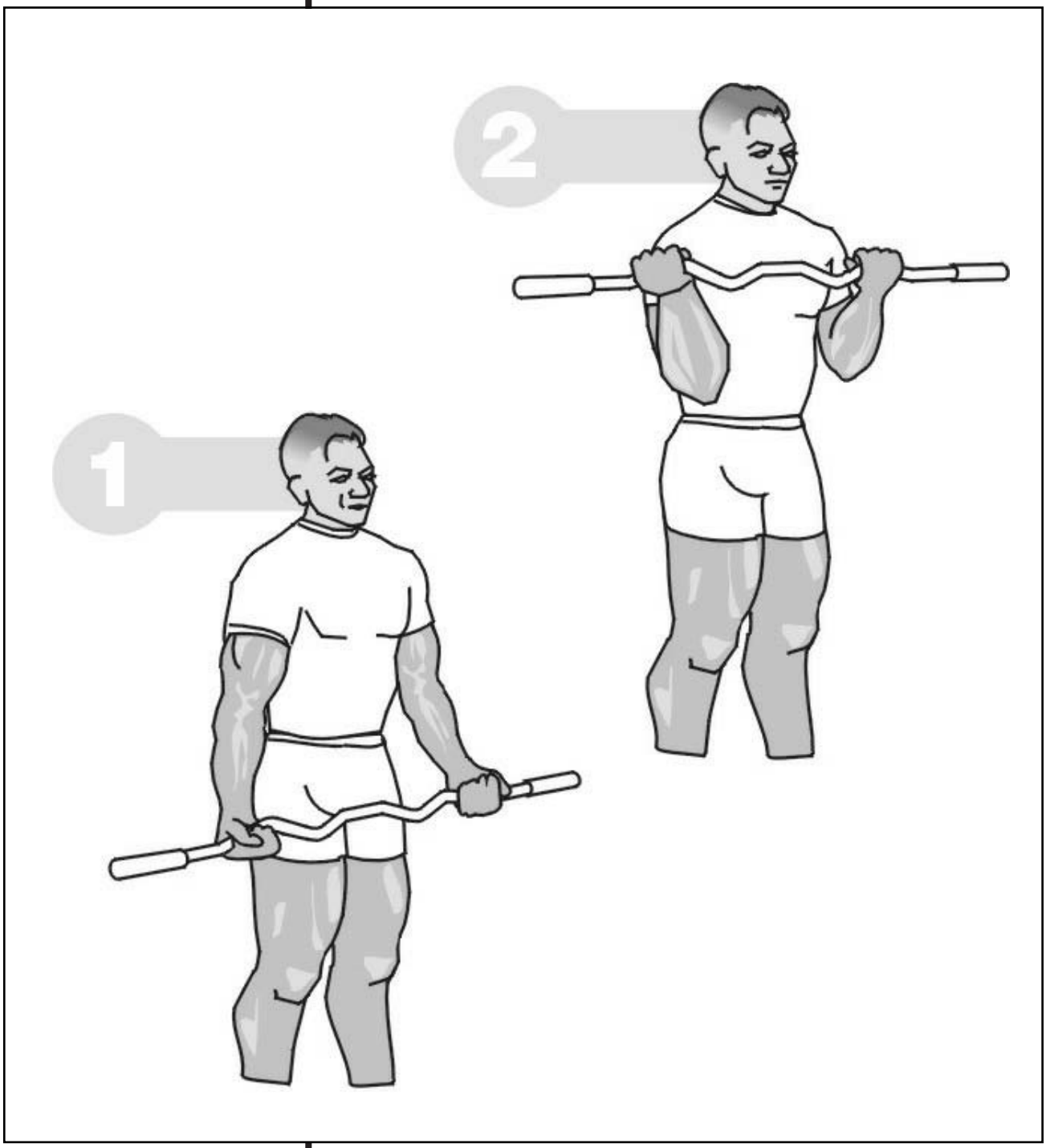
First PR Zone (15 Minutes):

A-1: Preacher Dumbbell Curl
A-2: Decline Dumbbell Tricep Extension
B: Protein/carb shake

Second PR Zone (15 Minutes):

A-1: EZ-Bar Reverse Curl
A-2: Close, Reverse-Grip Bench Press
B: Protein/carb shake
C: Post-Workout Cryotherapy

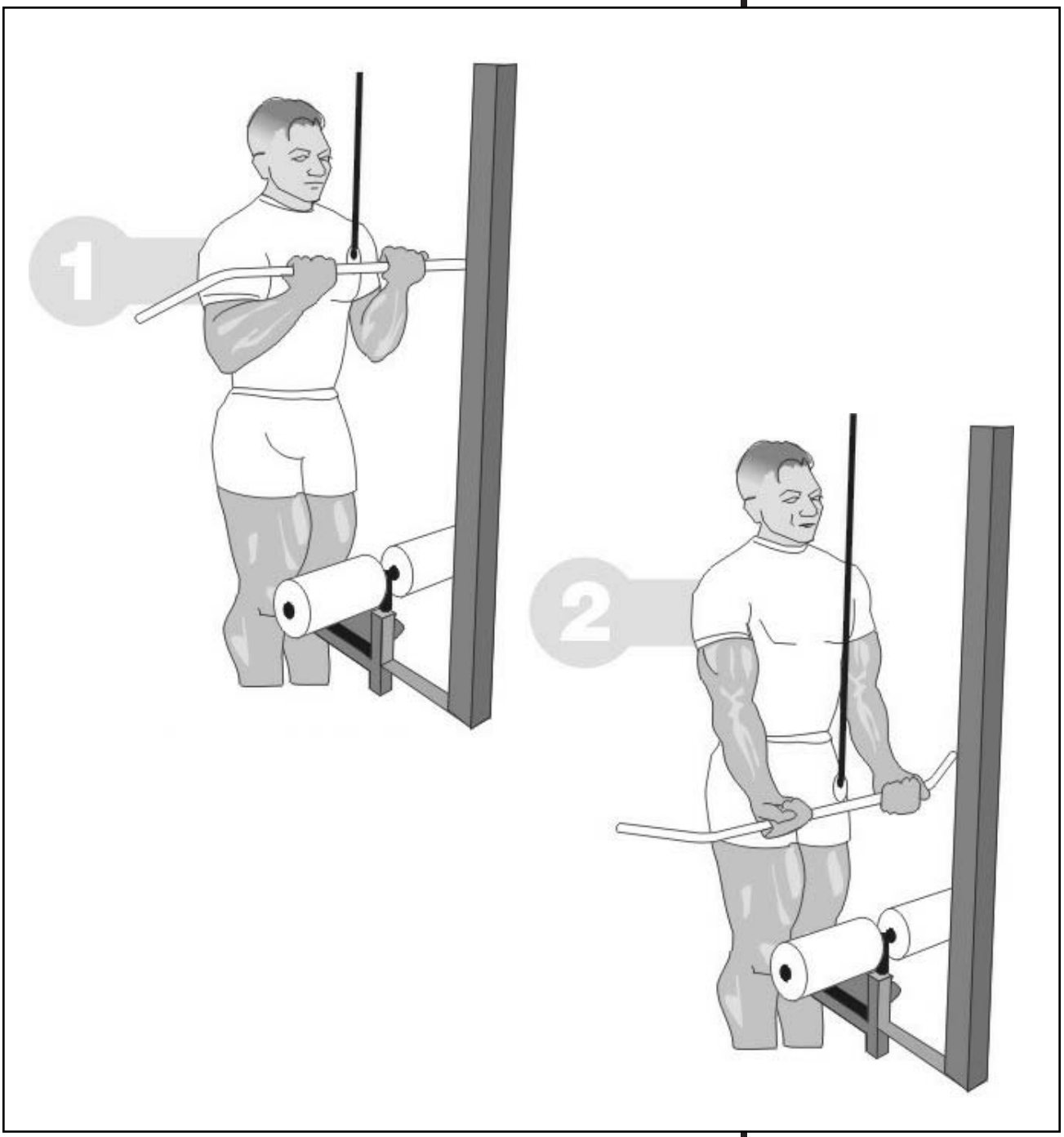
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Very Wide-Grip EZ-Bar Curl

Take a wide a grip on the EZ-curl bar and perform a standing biceps curl with an underhand grip (palms facing up) as shown.

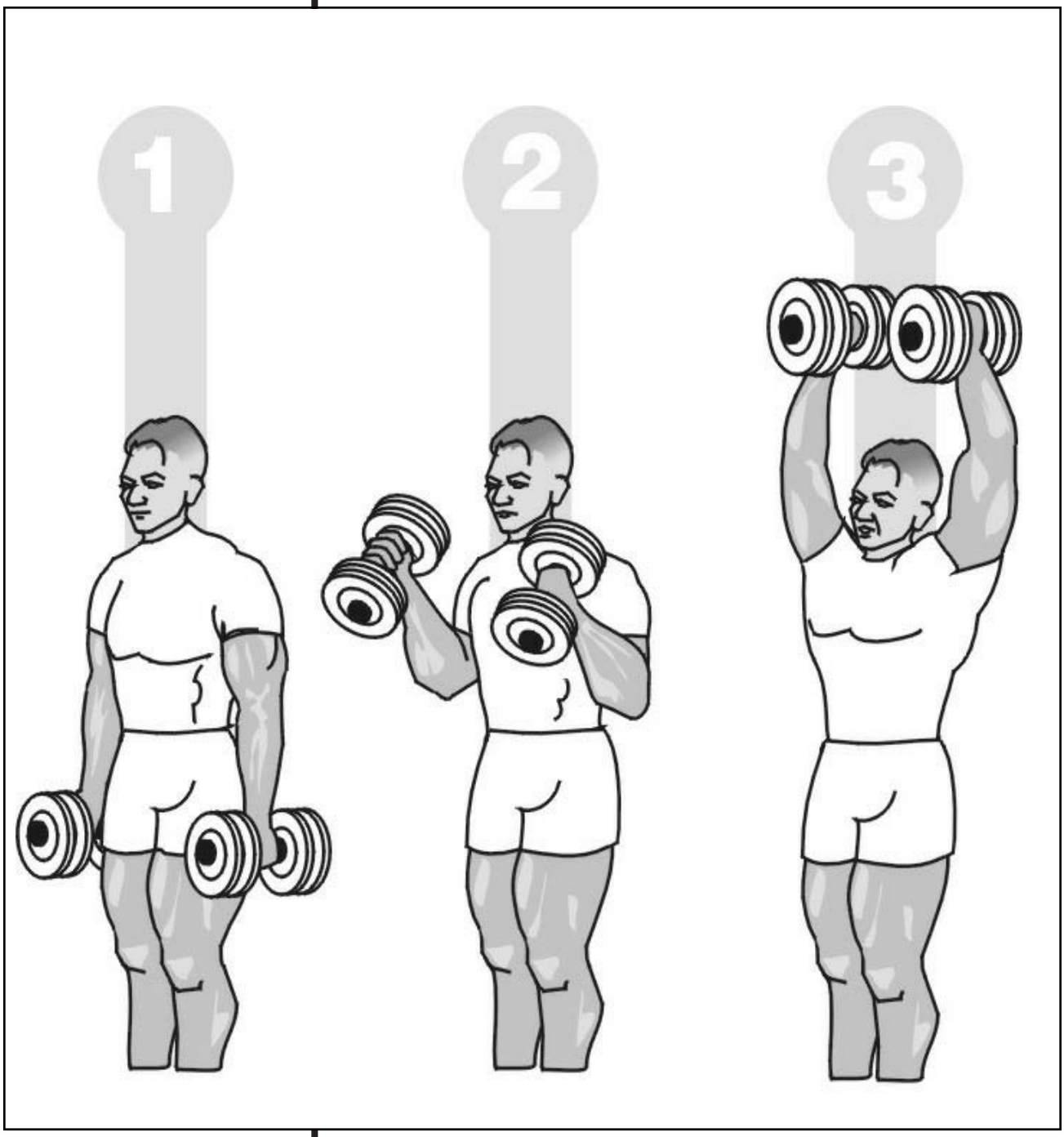
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Supinated-Grip Triceps Pushdowns

This is a standard tricep pushdown with a straight bar, with a palms-up grip. Make sure you stabilize the elbows against the body and that your keep the backs of your wrists flat throughout.

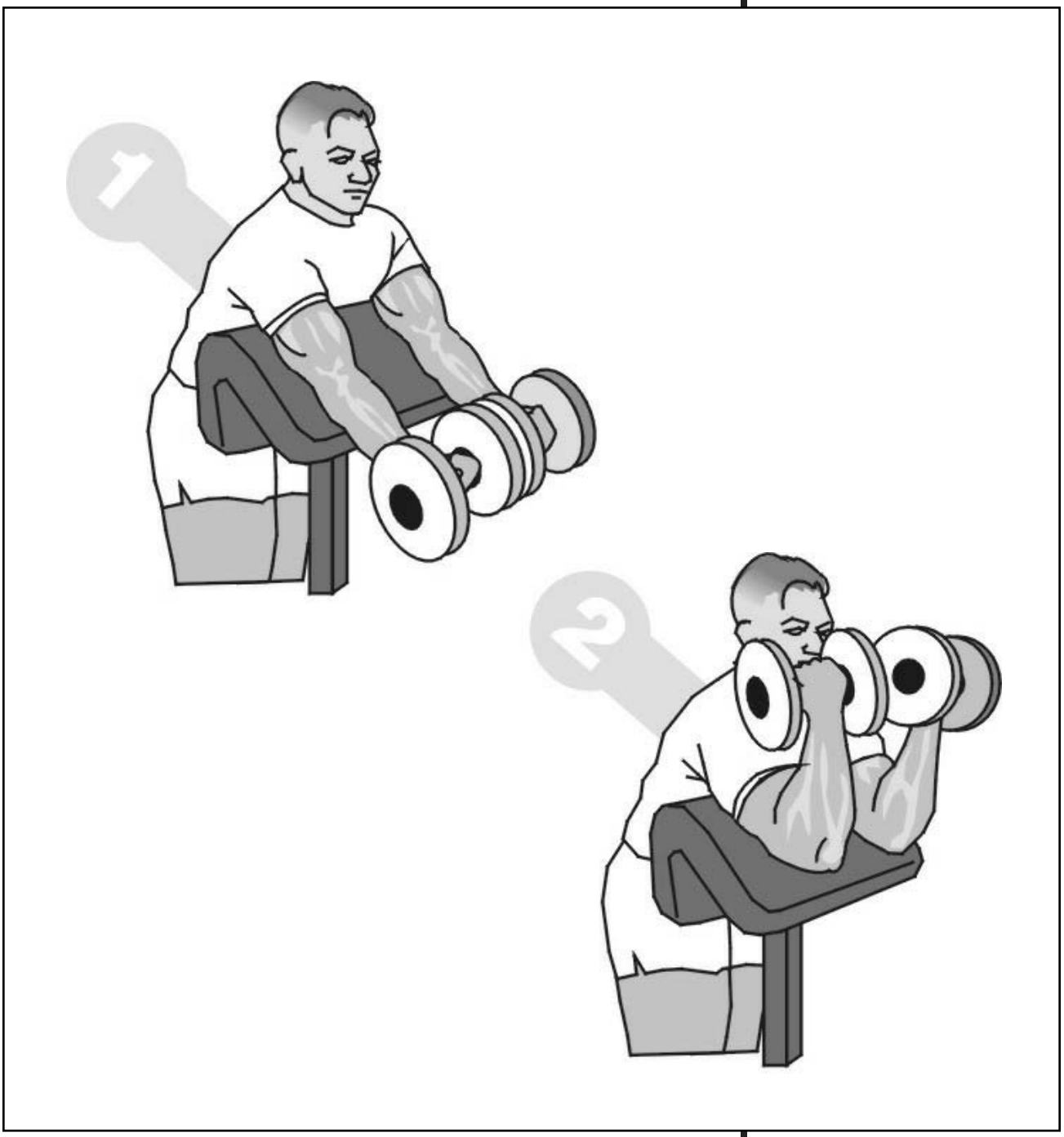
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Dumbbell Hammer Curl Overhead Press

From a standing position, perform a hammer curl and then immediately press the dumbbells overhead. Now reverse this action to complete the desired number of repetitions.

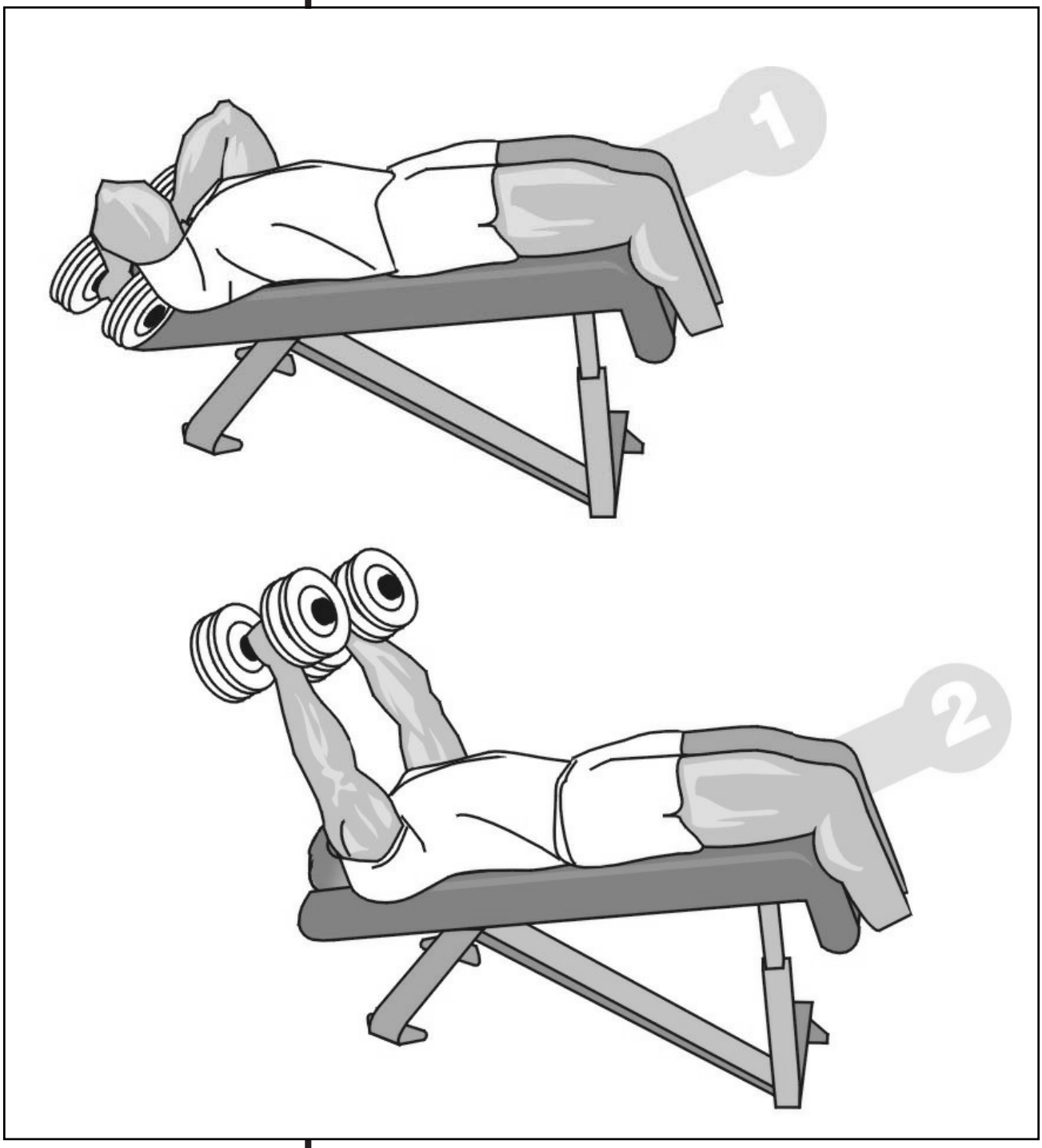
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



This exercise should be self-explanatory. Keep the wrists flat and make sure you achieve full elbow extension at the bottom of each rep, as shown in the illustration above.

Preacher Dumbbell Curl

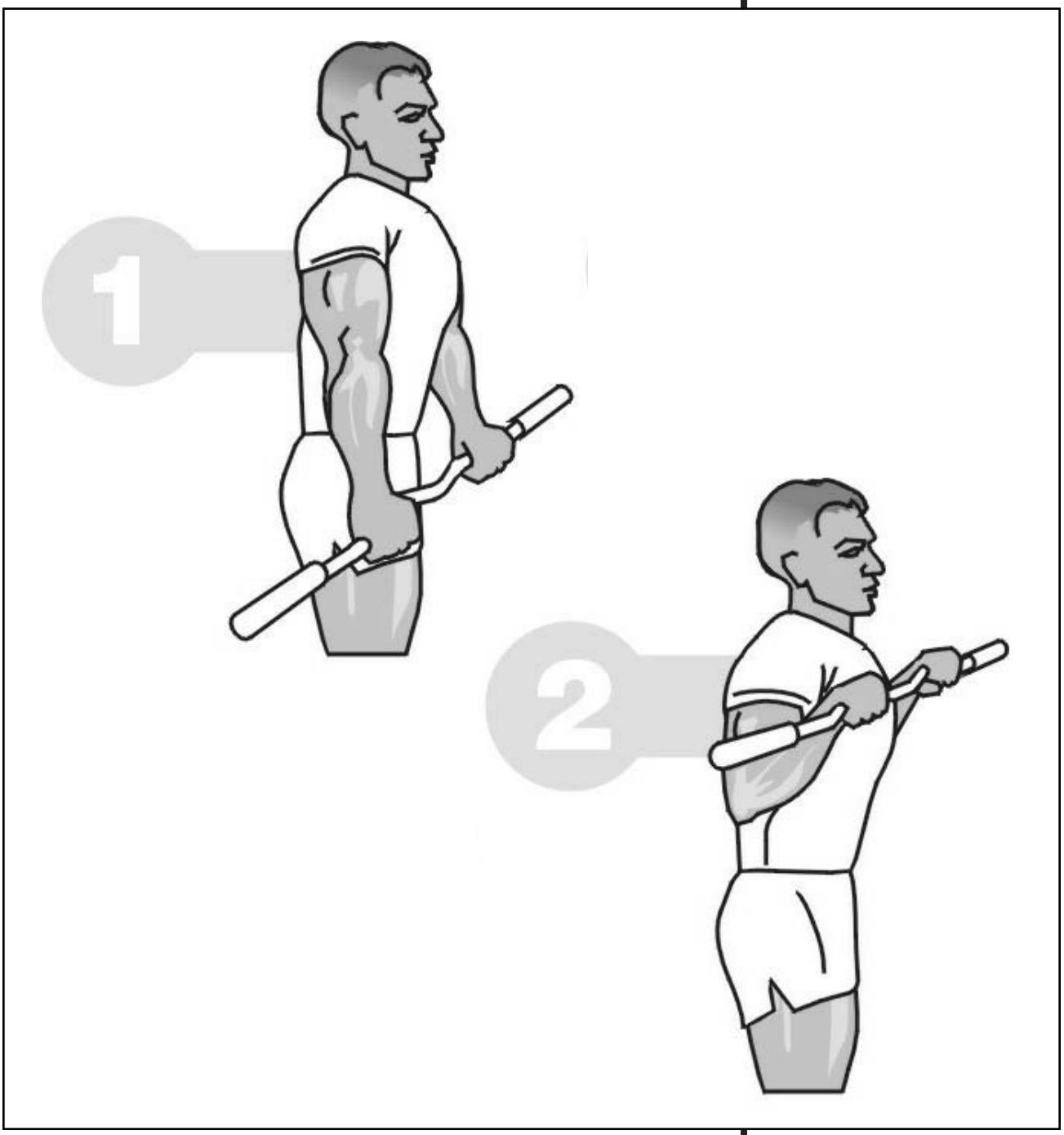
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Decline Dumbbell Tricep Extension

This is just a standard dumbbell tricep extension, but doing it from a decline position creates a unique and severe stress to the triceps.

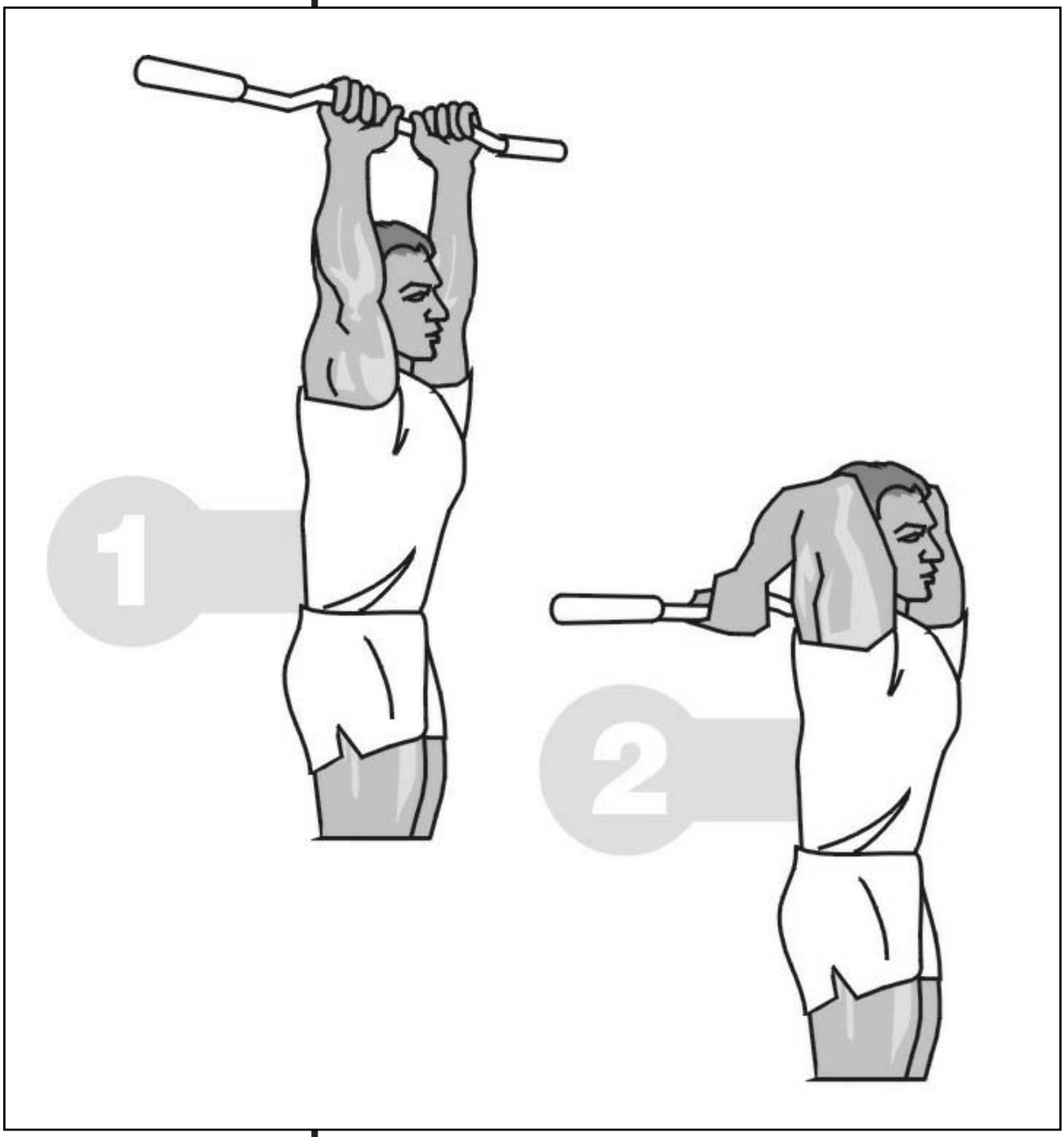
EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



This is a standard, palms-down curl from a standing position using an EZ-curl bar. Keep the backs of the wrists flat and do not hyperextend your lumbar spine.

EZ-Bar Reverse Curl

EXERCISE DESCRIPTIONS FOR THIS TRAINING CYCLE:



Overhead EZ-Bar Triceps Extensions

Take a medium grip on the EZ-curl bar and lift it above your head. You may rest your butt up against a support such as a preacher bench. Keeping the elbows high and motionless throughout.

PART THREE

The Critical Component To Your Success

"The biggest difference between successful people and everyone else is that successful people stay focused on completing activities which are the highest and best use of their time." — Jeff Smith

9

Introduction To Active Recovery

Introduction To Active Recovery

Training is only as effective as your ability to recover from it. I often liken the training/recovery relationship to music: often, it's not the notes themselves, but rather, the spaces between the notes, that determines the beauty of the piece. The relationship between training and recovery is similar. Once you accept the importance of recovery, the next important realization is that you can either allow recovery to take place, or you can make it take place. I prefer the latter option. I often joke that when you're looking for something, it's usually where you aren't looking. When it comes to training, everyone looks at exercises and training programs, but few consider the importance of recovery techniques. Here then, is a thorough compendium of recovery strategies and techniques, culled from my more than 20-years in the trenches with athlete clients.

Workout-Specific Recovery Strategies

One way to conceptualize the recovery process is to appreciate the various techniques that can be used pre-, during-, and post-training. Let's look at all three in detail:

Pre-training Recovery

The application of pre-training recuperative techniques will ensure not only a better training performance, but a more effective post training recovery as well. The following three suggestions will impact favorably on your recuperative abilities:

✧Pre-training salicylate (aspirin): Aspirin is perhaps the most powerful anabolic drug you can possibly take (legally, in any event). This effective substance operates on a variety of levels. First, aspirin improves blood flow by reducing the body's output of thromboxane, a natural chemical which causes blood platelets to become "stickier" Even as little as 30mg's (about a tenth of a normal tablet) of aspirin prior to training can thin the blood to the point where muscle tissue is exposed to greater amounts of nutrient carrying blood, thus speeding up recovery between reps and sets.

Additionally, lactic acid and other waste products, the result of heavy training efforts, will be flushed from your muscle cells with greater speed and efficiency. Aspirin also reduces edema (swelling), another result of hard training. Local tissue swelling and inflammation (usually not visible) is universally regarded by experts as being the enemy of healing—recovery simply does not begin until edema has subsided.

Thirdly, aspirin reduces pain associated with training. While there is no benefit in masking pain resulting from injury, aspirin can often make the difference between a "ho-hum" workout and a really supercharged effort, which when coupled with an effective recovery regimen, will lead to increased progress.

Experiment with dosages—in many cases, low dosages of aspirin work just as well as large doses, with less possibility of stomach irritation. Instead of assuming that "more is better," it is a wiser practice to seek the smallest possible dose that will assist your recuperative efforts. To protect your stomach lining even further, try crushing the aspirin tablets between 2 spoons and mixing them into a glass of milk. Since the body eventually develops a tolerance to it., use aspirin judiciously—perhaps only prior to your most difficult training sessions. Finally, check with your physician before implementing a regular schedule of aspirin therapy, no matter how small the dose.

✧ Leg Elevation: Many of us are either sitting or standing while at work for 8 or more hours before going to the gym. During this time, the legs can often become edematous and swollen. Training with your legs in this condition will handicap your training efforts right from the start. To help remedy

this condition, spend between 20 and 30 minutes (both during the work day and prior to your leg and/or low back training) with your back on the floor, legs up against the wall or up against the side of a couch.

Positioning your legs in this way will allow gravity to assist your body in returning blood back up to the heart, restoring optimum circulation. Incidentally, while on your back, take the opportunity to listen to some relaxing music or take a light nap—doing so will promote an important physical and psychological transition between work and training.

✧Vitamin C: This vitamin has an established track record of preventing/reducing post-workout soreness. I recommend 500mg about 30 minutes prior to training.

Pre-training Recovery

The recovery process starts every time you cease work—that means between the positive and negative portion of each rep, between reps, between exercises, and between workouts. In the larger sense, recovery is needed between heavy training cycles, which sometimes last months! The following aspects of recovery during the training session must be addressed:

✧Time between sets: Time is in fact, the most elemental unit of recovery. The amount of time you spend between sets has a significant effect on your performance on succeeding sets, and on future training sessions. In fact, one can raise the overall difficulty of the workout simply by decreasing the time between sets. One can employ either objective or subjective methods of monitoring time between sets. Objectively, the pulse rate is commonly used to determine when to begin the next set—most commonly the trainee waits until the heart rate has fallen to below 60% of maximum (maximum heart rate is determined as 220 minus your age). Another objective method, albeit less accurate, is to use the clock—in other words, you would for example do a set every three minutes. The problem with this method is that your body's functioning varies from workout to workout, depending on how well recovered you are from previ-

ous training efforts. Therefore, using a standard time unit can be a hit or miss proposition at best.

Most training systems prescribe "pre-set" rest intervals between sets. This is counter-intuitive and inefficient because fatigue accumulates from set to set. Therefore, you'll need less rest between early sets than you'll need between later sets. Escalating Density Training provides for an intuitive assessment of optimal rest intervals from set to set—in the process of attempting to better your previous rep records, you'll intuitively discover the optimal rest intervals for maximal performance.

✧Move between sets: Many individuals mistakenly sit down and move as little as possible between sets. While this feels like the thing to do from an intuitive perspective, a faster recovery can be realized by moving around a bit between sets. Why? Well, if you'll consider the importance of the warm-up and cool-down in the context of a workout—and then think of moving between sets as both a cool-down for the previous set and a warm-up for the next set, you'll see the logic in this approach. Movement serves as a "transition" between all out effort during the set and relative inactivity between sets. This practice aids circulation and helps to reduce swelling of muscular tissues.

✧Intelligent program design: Effective training programs take "inter-set recovery" into account. One example of this concept is the use of what I call "antagonistic pairings," a technique used liberally in EDT training. Let me explain…

Every muscle in your body has a "partner" (called the antagonist) which is capable of opposing it's contractile forces. For example, when you perform a biceps curl, the biceps muscle would be termed the "agonist" and the tricep would be the "antagonist." (the easy way to remember these terms is to think that the agonist is the one that is in agony because it's performing the work).

As you curl the weight, the motor cortex of your brain signals the triceps to relax in order to allow the biceps to contract. This phenomenon is called Sherrington's Law of Reciprocal Inhibition. Here's how EDT takes advantage of this phenomenon in a very practical way:

You first perform a set of barbell curls, and then rest perhaps 30 seconds. For set two, you perform a set of lying dumbbell triceps extensions. As you do so, the biceps muscles are "inhibited." The triceps contraction actually forces the biceps to de-activate, which simply means they will recover faster as a result of having performed the set of triceps extensions. You then rest, go back to the curls, and back and forth until all sets for both exercises are completed.

There are at least three additional benefits to the use of antagonistic pairings:

- If you perform (for example) 5 sets of biceps curls one after the other using two minutes of rest between each set, you obviously get two minutes of rest between each set. However, if you perform a set of curls, then rest two minutes, then perform a set of triceps extensions, rest two minutes, etc., you now achieve more than four minutes of rest between two sets of the same exercise, even though the total workout duration remains the same.
- Training muscles in antagonistic pairs ensures equal (or at least similar) strength development around both sides of the joint. This is very important for overall size and strength gains, because if the strength ratio between agonist and antagonist is significantly disparate, the brain will reduce your strength levels in an effort to protect your joints.
- In the preceding example, as you perform your biceps curls, you are keeping the involved joint warm for your next set of triceps extensions. Over time, this can be very meaningful in terms of joint integrity and health.

Post-training Recovery

Post-training recovery methods complete the integrated recuperation format. These methods are designed to assist the body in rapidly accelerating the recovery process when it is needed most—directly after training. Two techniques in particular give the most "bang for the buck" in terms of immediate results:

✧The post-workout meal: A rapid ingestion of a "fast" protein/carbohydrate formula will halt catabolism when it's absolutely most important—post workout. The formula stimulates a hormonal (primarily insulin) surge that drives high concentrations of certain nutrients, supplied by the drink, deep into the muscle cell. As mentioned in Part Two of this book, my preferred post-workout drink is Surge by Biotest (see Resources section for more info).

✧Post-workout ice massage: This is described in detail in Part Two, and also later in this chapter (see: "Theraputic Treatment Options: from Conservative to Radical"). For now, let me just say that when you look around the gym, the most effective exercises are the one's no one does (because they aren't any fun!). The same applies to the best active recovery techniques. Post-workout ice massage is possible the most important recovery enhancer you can use. DO IT.

Successful Sleep For Successful Training

Generally, most people do not realize how much their poor sleep habits are damaging their recuperative capacity, not to mention general health, productivity, and their enjoyment of life. Whatever your situation happens to be, sleep occupies about one third of our lives, so it stands to reason that one should do everything possible to optimize our sleep quotient.

The first step in improving the quality of your sleep is to know your sleep habits. Just as the first step in making a budget is to audit your current spending, managing your sleep should start by examining your sleeping habits for a week.

Daily sleep diary: Keep notes of when you went to bed, how long you took to fall asleep and what time you got up.

Also note any times you woke up in the middle of the night, and for how long—if you were up for more than 15 minutes. Make similar notes for any daytime naps.

Track how sleepy you feel:

- At different times of day...
- An hour or two after you wake.
- During the afternoon dip in wakefulness.
- During the early evening alertness peak.
- Or at other random times.

Use a ten-point scale, where one stands for fully alert and ten indicates a struggle to stay awake.

After evaluating your sleep patterns for a week or so, you will notice a pattern showing your daily peaks and troughs in wakefulness.

Measure your "sleep debt." Time how long it takes you to fall asleep while lying in bed in a dark room during the day.

If you are seriously sleep deprived, you will doze off in less than five minutes, whereas if you are fully rested it may take 20 minutes or more.

Note: When you go to bed at night, it is good to have enough of a sleep debt that it does not take too long to fall asleep.

Determine how much sleep you need per day. You probably already have a rough idea how many hours of sleep you need, so for a few days try to go to bed at a time that allows you that amount.

Monitor how sleepy you feel during the day. If you find yourself getting sleepier each day, you need more sleep than you thought. Give yourself extra sleep for a few days so you can pay off the excess sleep debt and your daytime alertness reaches a level you are happy with.

If your daytime sleepiness stays about the same, you are getting about the right amount.

Once you know how much sleep you need, arrange your regular sleep schedule to give you that amount each night.

If you are a "morning person," make sure you go to bed early enough to wake up rested. You may have to give up some social functions or stop watching the evening news. Your well being is surely worth such minor sacrifices.

Tips For Optimal Sleep

Avoid caffeinated drinks in the evening. It takes five to seven hours to get half the caffeine out of your bloodstream.

Don't eat particularly large meals late at night. Your last meal of the day should be small and ideally, it should contain "slow" proteins (e.g., meats), so that there will be a steady supply of amino acids into your bloodstream all night long.

Also, have a consistent bedtime schedule with rare exceptions.

Avoid stressful or disturbing stimuli. Don't watch the late news, with its emphasis on violence.

Unwind. Don't check E-mail, pay bills or think about work problems for an hour or two before bedtime.

Develop and follow a bedtime ritual. For instance, take a bath every night before you go to bed. It will help you relax and let drowsiness sneak up on you.

Eliminate noise. Make sure that your bedroom is quiet the whole night.

Monitor the thermostat. Keep the bedroom at a temperature that suits you.

Invest in good sleep technology! Get a bed, mattress and pillows that you find fantastically comfortable.

Do arithmetic. If you have trouble falling asleep, engage your mind with a simple, repetitive problem.

For example, count sheep. Begin with the number 1,000 and repeatedly subtract seven or some other number.

Theraputic Treatment Options: from Conservative to Radical

Cryo-therapy

I've listed this first because cryotherapy is safe, free, and easy to administer. Cryotherapy can take many forms, but one of the most effective variants is post-workout ice massage, as mentioned in Part Two of this book. Cold application reduces tissue swelling and microtrauma, and also effectively reduces the perception of pain. I strongly suspect that ice massage acts on pathways that are yet to be discovered. My personal experience with this technique is that it markedly reduces post-workout muscle soreness and speeds the localized recovery process.

Massage/Soft Tissue Therapy

There are many different kinds of massage. The ideal type of massage for "pre-event" purposes is very light, most often done without oil, for about 20 minutes before an event. We use broad compression strokes, jostling and light friction at tendons to warm the muscles up, loosen them from spasms prime them with blood.

Massage has become an indispensable part of my work with athletes. My Los Angeles-based athletes are treated by Dianna Linden, MT, CFT (who may be contacted at diannalinden@earth-link.net), who uses a wide range of techniques and disciplines with her clients, many of whom are athletes.

According to Dianna, "Massage which is of a deep tissue style or sports massage of a clinical nature is used to release spasms or adhesions (old or new) from muscles and tendons. This type of work is more invasive and does require some recovery time before the muscles are ready for peak performance again. For this reason, this type of deeper tissue work is best done in the off season or as part of the athlete's rebuild phase so that the tissues are 'available for training' without damaged or restricted fibers restricting their ability to fully relax and contract. After deep tissue style massage the muscles might even feel tender and weaker for that day and a day following the massage. After that, they should perform better, being freed from the internal restrictions of the erased adhesions."

Dianna also cautions that If a large range of motion is important to the performance of the athlete's sport or training (for example, deep squatting or dumbbell bench presses) the athlete

should take it easy for the first workout and be aware that the synergistic functioning of the antagonists has been temporarily altered by the release of the adhesions. For example, if the hamstring has had a large spasm or adhesion in it and the deep tissue work relieved some portion of that spasm or all of it, the muscle might behave differently, the leg could go forward faster, thus affecting the athlete's gait. This is ultimately beneficial for performance, but could be temporarily disconcerting to feel your leg moving faster than you are used to. This takes some re-orientation for the athlete and would hardly be noticed by the average person.

A well trained sports therapist should inform her client what to expect from the work and how to choose what kind of massage is appropriate for their immediate goal and how to best time the massages to be most affective to help the athlete achieve enhanced performance. So communicate with your massage therapist, and I'd suggest that you treat a deep massage almost like a workout—don't make any strong demands on those muscles for a few days following the treatment.

Aspirin Therapy

Aspirin reduces edema (swelling). Recovery simply does not begin until edema has subsided. Experiment with dosages—in many cases, low dosages of aspirin work just as well as large doses, with less possibility of stomach irritation. To protect your stomach lining even further, try crushing the aspirin tablets between 2 spoons and mixing them into a glass of milk. Since the body eventually develops a tolerance to it., use aspirin judiciously—only when needed most. Always check with your physician before implementing a regular schedule of aspirin therapy, no matter how small the dose.

Diathermy

A high frequency form of heat which can penetrate as deep as 2 1/2 inches into injured tissues. Administered by a chiropractor or physical therapist, diathermy promotes circulation to the injury site, accelerating the healing process. Diathermy should precede cryo-therapy treatments.

Electro-stimulation

Moderate to intense amounts of intermittent electrostimulation are applied directly to the injured tendinous area for 10-15 minutes per session. This form of electrostimulation is most effective when it follows diathermy and is followed up with cryo-therapy.

Cortico-steroids

Administered by injection to the injury site, cortico-steroids help to reduce inflammation and pain. The drawback, however, is that these agents cause a breakdown of collagenous and ligamentous tissue after repeated injections.

Proliferent-injection Therapy

A solution is injected directly into the injury site, causing an "artificial injury" which then provokes the collagenous cells to begin restructuring themselves more quickly.

Surgery

In the most extreme cases, a torn or avulsed tendon or ligament may require surgical re-attachment. This is "the final straw" when it comes to solutions for joint problems! Many methods are used, including tendon grafts, and stapling.

Recovery In Everyday Life: Workplace Ergonomics

Since most people spend significant amounts of time at a "workspace," it is logical to closely examine the ergonomics of your own workspace with the following in mind:

- Chairs with lumbar supports (sufficient to maintain, but not exaggerate the normal lordosis, or sway, of the spine have been shown to result in lower interdiscal pressures than chairs without these supports.

- Chairs with armrests also reduce pressure on the disks.

- Sitting in an reclined position (120 degrees seems optimal) lowers disc pressure, so make sure your chair allows you to alternate positions!
- Since keeping the knees close together makes you more

prone to "slumping," choose a chair that is wide enough to keep your knees apart. Also, if you sit at a desk for long periods of time, make sure that it allows you enough space to open your knees.

- When selecting a chair, adjustability is crucial. This is because people come in different shapes and sizes, have have unique needs for their work-station set-up. An adjustable chair will ensure that you can optimize your own work-station for the best possible ergonomic effect.

- At your work-station, your chair/desk arrangement should be such that your forearms rest on the desk, elbows at a 90 degree angle and close to your sides—this position reduces stress on the trapezious and surrounding muscles of the upper back and neck.

- If you work with a computer monitor, or anything else that you visually refer to often, keep it straight ahead and at eye level— if your focal point is lower than this, it sets you up for a rounded, slumped forward posture. Remember—virtually all postural related spinal disorders are preventable! Although the dangers of sitting for prolonged periods of time may not seem like a pressing issue at the moment, over the years it has a cumulative effect on the spine—just take a look at many older people who have acquired debilitating hunchbacks and other deformities from lifetimes spent in poor posture.

The Role Of Nutritional Supplementation in Active Recovery

Although the fitness and sports training market is literally overwhelmed with thousands of supposedly anabolic or ergogenic aids and new ones emerging every month, very few have any proven value. This may reflect the "magic pill" mentality that seems so ingrained in current culture. Therefore, the following review only addresses the supplements which have proven track records for improving health and physical performance. Anabolic steroids are omitted since they are illegal and, in many cases, dangerous.

Vitamin and Mineral Supplements

For most athletes, a vitamin and mineral supplement is a good place to start when developing a supplementation plan. Many products are available, and theories abound as to the optimal proportions of various nutrients that should be present in a multivitamin. Seek a reputable performance nutrition specialist for advice on the best formulation to use.

Meal Replacement Shakes (MRPs)

One of the more difficult aspects of eating well is the preparation involved. On this front, MRPs can really make a significant difference in the overall quality of a nutritional plan. MRPs normally consist of all three macronutrients in various ratios, along with vitamins, minerals, and quite often, an array of the latest anabolic substances, such as creatine, branch—chain amino acids (BCAAs), HMB, and so forth. Most MRPs are designed to be mixed with water, milk, or fruit juice, and many mix well with a spoon, precluding the need for a blender.

Athletes not satisfied with the macronutrient ratio of a particular MRP can adjust it by adding fruit, flax oil, whey protein, or milk of varying fat levels. Be cautious of products that are overly-processed with dozens of artificial ingredients and unproven ergogenic substances which are often included as an excuse to increase the price of the MRP.

Sports Drinks

The excessive amount of carbohydrate contained in these drinks causes insulin to go into overdrive and pack away too much sugar as the storage fuel glycogen in the muscles and liver. While this storage leads to an initial boost of energy, when the glycogen runs out it actually deprives the brain of its only fuel (glucose). The result is a low blood sugar syndrome characterized by a loss of long-term energy and lack of extended concentration and focus, both of which are a martial artist's enemy. Another leading sports nutritionist, Dr. Ann DeWees Allen, calls these sports drinks "the worst thing you can put in your body."

Protein Shakes

Protein shakes are available in many formulations, but the most effective products are based on whey protein.

Use protein shakes as MRPs by adding milk, fruit, and/or flax oil as a way to create the optimal macronutrient ratio. In this way, it's easier to avoid all the processing and artificial ingredients which are so common in MRPs.

Don't try to live off of protein shakes or MRPs. Athletes need "real" food as well! Alternate between MRPs and whole food meals throughout the day, planning it in such a way that a MRP will occur post-training, if a session takes place that day.

Branch-Chain Amino Acids (BCAAs)

BCAAs are considered to be "conditionally essential" when the body is under stress. During strenuous bouts of training, these three amino acids are catabolized at more rapid rates than the other amino acids, creating a "limiting amino acid condition." This means that BCAAs can rapidly accelerate recovery rates when ingested with juice immediately after every training session.

L-Glutamine

Once categorized as a "nonessential amino acid," (nonessential means that the body can synthesize it on it's own if inadequate amounts are not ingested). L-glutamine has recently attained "conditionally essential amino acid" status, meaning that in certain cases where the body is under stress, the need for L-Glutamine outpaces the rate at which it can be made by the body. These conditions of stress include trauma, surgery, infections, fasting, and intense or prolonged exercise.

Studies on L-Glutamine point to it's ability to boost immunity, promote protein synthesis (muscle growth), increase GH (growth hormone) release, and improve carbohydrate metabolism. All of these benefits are highly useful for athletes. Although L-Glutamine may be obtained in a normal diet, exercise scientist Jim Wright, M.D., states it's unlikely that hard training athletes can get enough through diet alone.3

Wright recommends taking L-Glutamine in five gram doses (a

slightly rounded teaspoon) two to four times a day. Suggested times include upon waking, before and after training, and just before going to bed. Take L-Glutamine mixed in water, or by placing it under the tongue for a few minutes, following up with water.

Flaxseed Oil/EFA's

As a source of essential fatty acids, flaxseed oil helps to lower cholesterol levels, nourish nervous and brain tissue, reduce inflammation, and regulate the cardiovascular, immune, and digestive systems. Flaxseed oil does not contribute to bodyfat deposition like other fats because it must be converted metabolically in order to become saturated fat. Because the fatty acids in flaxseed oil are essential nutrients, they are the starting point, or the "mortar and bricks" for manufacturing all other fatty acids and hormone precursors necessary to support and build strong lean muscle, while prolonging stamina required for endurance sports. Flaxseed oil may be taken by itself, or put in shakes or on salads.

Creatine Monohydrate

Of all the thousands of ergogenic (work enhancing) nutritional substances that have emerged over the past twenty years or so, one has distinguished itself—creatine monohydrate. A natural substance found in all meats, creatine significantly increases short term endurance capacity, and is thought to aid in the process of protein synthesis (muscle repair after training). It is perhaps the most thoroughly investigated nutritional supplement, and the bulk of the scientific evidence strongly suggests that creatine is safe and effective. Although many dosing schedules are possible, the most common recommendation is to "load" for five consecutive days by consuming one gram of creatine for every ten pounds of bodyweight per day (divided into five gram doses spread throughout the day), followed by a "maintenance" schedule of one gram per 2.5 pounds of bodyweight per day, taken in single does (immediately after exercise on training days). Creatine is more easily assimilated by the body if ingested with a small quantity of a high GI carbohydrate, such as grape juice. As a matter of principle, all nutritional supplements should be "cycled," and creatine is no exception. After ten to twelve weeks of continuous use, take a week or two off before starting another cycle.

L-Tyrosine

L-Tyrosine is designed to help you recruit more muscle fibers so that you experience an almost immediate gain in strength and endurance. O the long run, this enhanced ability to recruit muscle cells results in bigger muscles. It stands to reason that, under normal circumstances, the average weight trainer doesn't even begin to work a good percentage of his or her muscle fibers. In effect, these fibers "sit by" during an average workout and receive very little direct stimulation. L-Tyrosine also improves fat mobilization, along with concentration, memory, coordination, and endurance. It may, in some individuals, also increase pain threshold and overall sense of well-being. My preferred L-Tyrosine formula is Power Drive by Biotest (see Resources section for more info).

Pro-Hormones

Recently, a new class of substances has emerged, called "pro-hormones" because they supposedly promote an increase in the body's own levels of anabolic hormones, such as testosterone and human growth hormone. Although these substances are banned in many (if not most) sport's governing bodies, they are otherwise legal. Furthermore, due to the discovery that baseball home run record holder Mark McGuire used androstenedione (a pro-hormone), and because these substances may indeed have anabolic and ergogenic properties, a brief discussion is warranted.

Pro-hormones are chemical substances which, when ingested, provide the raw building blocks which enable the body to increase it's endogenous (internal) levels of testosterone, the primary anabolic hormone. To date, most studies have focused on androstenediol (which was the first of the pro-hormones to emerge on the open market), and the conclusions of these studies vary widely. Nevertheless, many studies did show an increase in testosterone levels after androstenedione ingestion. Subsequent to these findings, several new pro-hormones have emerged, including 5-androstenediol, 19-nor-5-androstenediol, 19-norestosterone, and 4-androstenediol. These substances all have a potential anabolic effect, but appear to vary with respect to possible negative side effects, such as gynocomastia (breast development in men), according to Patrick Arnold, the man generally credited with bringing androstenediol to the U.S. market.

At the time of this writing, the benefit to risk profile of pro-

hormones is still an open question. If an athlete's particular sports governing body does not ban these substances, any use should be conducted under medical supervision to stay on the safe side.

Hydration

Another nutrient, almost always overlooked is water. Water is especially important for martial artists. A vast majority of martial athletes are arguably dehydrated at any given time. In such cases, increased water intakes might lead to better performance improvements than any other supplement! The "old school" practice of not allowing athletes access to water during workouts is antiquated and, in some cases, dangerous. After all, the goal of training is to produce superior performances, not to see how much pain and discomfort may be endured! Although no exact hydration recommendations have been established, the old adage of "eight glasses of water a day" is only marginally acceptable for most people. Athletes with very demanding training schedules will need to increase their water intake accordingly. A simple "rule of thumb" guideline suggested by Donald Baker of Smartfuel (www.smartfuel.com) is to take bodyweight in pounds, convert that number to ounces, and that's the amount of water to drink each day.

Cool Stuff You Need To Get

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Integrated Sport Solutions. The author's official web site. LOTS of free content, training information and specifics on the Myo-Dynamics Training-Nutrition Manager software. On the Internet at www.integratedsportsolutions.com.

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The ISSA acts as a teaching institution and certification agency for fitness trainers, athletic trainers, martial art instructors, and medical professionals in every field of health care. ISSA hosts seminars in most states as well as numerous countries around the world. The ISSA has set new standards in exercise assessment, nutritional planning, fitness instruction, sports medicine practice, and post-rehabilitation training. ISSA's certification and continuing education programs are universally recognized. For more information, call (800) 892-ISSA, or go to www.issaonline.com.

Lifeline USA Training Equipment: This site has functional

equipment for fitness, sports specific & rehabilitational training. Lifeline uses dipped latex (resistance cables) for their resistance products like portable gyms, resistance running & jumping devices and most recently the Power Push Up which resists 20, 40, 60, 80 or even 160 lbs. of resistance for push ups, dips, rear delt flys and even jump squats. They also have the #1 rope in the World, the Lifeline Power Jump Rope! It's definitely a good site to visit for strength coaches, personal trainers or people who just like to workout at home or on the road.

SmartFuel: Perhaps the best tasting and highest quality food bars and shakes available anywhere. I LOVE these products. On the Internet at: http://www.smartfuel.com.

Testosterone Magazine (T-Mag, as it's affectionately known by its readers), has essentially attained cult status among strength and physique athletes. They routinely feature works by the world's best strength coaches and trainers (yours truly included), along with groundbreaking information on performance-oriented supplements. Existing first as a weekly webzine (Testosterone.net) and growing to the point where it now gets approximately 14 million page-hits a month, they soon began publishing a bi-monthly newsstand magazine, too. In addition to its elite status as a training journal, it's also a fun read. Point your browser to: http://www.testosterone.net.

About The Author

Charles Staley is the "Secret Weapon" to numerous Olympic and Professional athletes in a variety of sports. A renown expert in the field of Sports Performance, Charles has written hundreds of published articles in popular magazines such as Muscle Media, Ms. Fitness, Men's Health, Muscle & Fitness, and Testosterone. When the elite of the sports world want progressive, "out-of-the-box" solutions in their quest to reach World-class levels of performance—they come to Charles.

As an Olympic weightlifting coach, former martial arts coach and competitor, as well as a Master's Level Track and Field athlete, Coach Staley practices what he preaches and is widely sought after by the leaders in the industry to speak on the topics of Human Performance and Sports Training. Coach Staley also publishes a Free Online Newsletter where you can read the latest in advanced training techniques as well as a Member's Only - Elite Coaching Group of coaches, personal trainers, athletes, and everyday people looking to enhance physical performance and physique transformation.

What Do I Do Now?
Finally, a Chance To Work "Hands-On" With The Author Of This Breakthrough Book.

If you're like most of the people who have finished this book you probably want to know what to do next. Excitement will fade tomorrow when you have to apply what you've learned.

Well, I've been through this situation before and you're not alone.

When I put out my last book, *The Science of Martial Arts Training*, way back in 1999, I received a lot of great feedback from those who read it. There was one problem: people would call me and ask, "Charles what do we do now?" Is there any way we can work with you? Can you write a program for me?"

I was always hesitant to say anything. My rates for specific programs are a bit pricey—that way I can weed out the wannabe's who aren't serious. They talk a great game but they never follow through. Usually I would tell the readers that if they were ever in the Las Vegas area they could stop by and I'd work with them (at my hourly rate of $300). That rarely happened.

Now, after a year of testing, I've finally found a proven way to work effectively with clients at a distance. Early this year I started my first ever coaching group. It quickly became a cost effective way for people to utilize my "know-how" and get the "behind-the-scenes" breakthroughs in training and conditioning as they happen. The response to the group has been fantastic.

Usually, I spend most of my day talking to supplement companies, Doctors, nutritionists, and other strength and conditioning experts, staying on top of what's working in the "real world" and what is flat out marketing hype. Through my coaching group I'm able to keep my clients up-to-date on the latest findings in the worlds of performance enhancement and physique transformations.

Every month is a fresh chance for people to work with me, one-on-one, and in a group setting, through the latest in technology. Whether we communicate through our online E-group, or through our tele-conferences, Fax, or email, members of my exclusive Coaching Group (hey, it's so exclusive it doesn't even have a catchy name!) receive a number of benefits too lengthy to talk about here.

We are currently re-structuring our coaching group programs so that you can benefit from any level that you may need. Whether you're an Elite athlete or a husband and wife "team" we can help you get on the right track and stay there. If you would like to receive more information on our group, send an email to rebecca@integratedsportsolutions.com or call the office and Rebecca will send you an info-pack. There's no obligation. Give a quick call to the office at 1-800-519-2492 or you can fax your request at 1-702-254-4823. All we'll need from you is your name, address, phone number and email. If it's late go ahead and leave a message. You can call 24/7. Go ahead and call now. We'll send that information to you a.s.a.p.

Physically Incorrect: 518 Pages And Four Pounds: Enough To Give You A Brain Cramp And A Pretty Solid Rotator Cuff Workout At The Same Time.

In twenty years I've amassed quite the library of my own works and articles that I've published in almost every major fitness magazine you could think of.

Now, you could try and go back and search every issue of *Testosterone.net*, or maybe you could go to the library and get the white haired lady with the horn-rimmed glasses to pull out every past issue of *Muscle Media* or *Muscle & Fitness*.

Or you could order a copy of *Physically Incorrect* and have all of them sent to your computer right now at a huge discount, just for getting to the end of this book.

Here's what you'll discover by reading **Physically Incorrect**:

- Here you're seeing my articles before they were "dumbed down" by the Editors of the magazines they appeared in (this has never happened for the web sites I've worked for but was common in *Muscle & Fitness* and *Muscle Media 2000*).
- Each article starts with a short introduction from me, explaining either my current thoughts on the subject matter, interesting feedback I've received about the article, and/or "behind the scenes" information that was not originally published.
- Exercises discussed are illustrated with photos (often, the original article did not include photos, particularly if it was originally published on the web.
- The Q&A section is categorized by subject for easy navigation when you need an answer fast!
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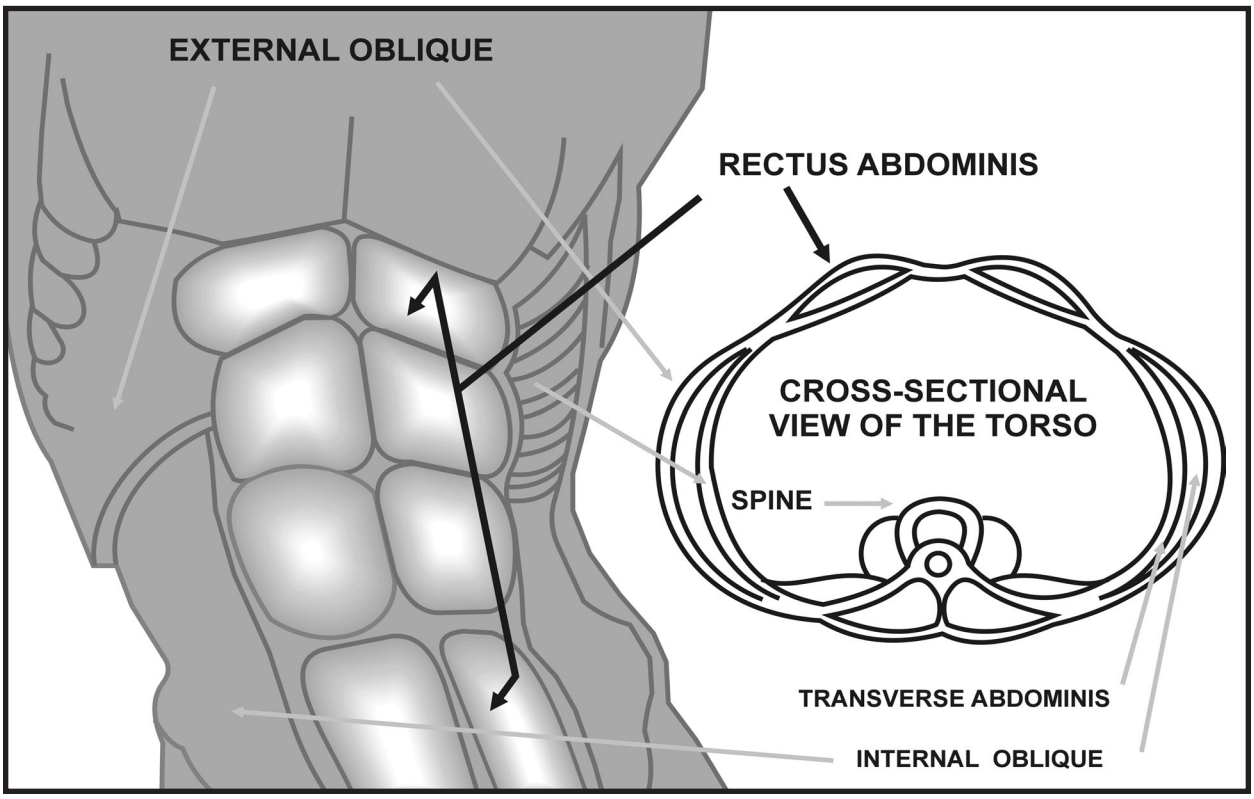
Charles Staley is president of IntegratedSportSolutions.com based in Las Vegas, NV, and writes for Muscle Media, Testosterone.net, Men's Health, and many others. As a sought after Sports Performance Specialist he lectures around the world on Escalating Density Training as well as other topics based on his twenty years of dealing with athletes of all levels of expertise in a wide variety of sports. For your Free report on Escalating Density Training please visit **www.EDTSecrets.com.**

The TRUTH About ABS



(And Why You've Never Seen Yours!)

A Special Training Report

Charles Staley, MSS
Integrated Sport Solutions, Inc.

www.integratedsportsolutions.com

The Truth About Abs
And Why You've Never Seen Yours

By Charles Staley

DISCLAIMER

Please note that the author and publisher of this book are NOT RESPONSIBLE in any manner whatsoever for any injury that may result from practicing the techniques and/or following the instructions given within. Since the physical activities described herein may be too strenuous in nature for some readers to engage in safely, it is essential that a physician be consulted prior to training.

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Table of Contents

Did you ever notice that being “elite” always works out to be about five percent of whatever population you're talking about?

Five percent of the world is financially free when they die.

Five percent of all athletes in a sport make some sort of splash at the professional level.

It’s always around five percent.

What is more amazing is that most of these "five-percenters" very often employ “contrarion” ways of doing things as their fast track to success. When the rest of the world was going one way, they went the other, to incredible levels of success.

So if you’d like to join the “five percent club” — those very few who have jaw-dropping abs, you’ll need to liberate yourself from the following seven myths that the other 95 percent live and die by.

This special report details seven such myths that I have found to be most prevalent among super athletes and weekend warriors alike. Ab training isn’t nearly as complex as the local fitness trainer or the late night ab-gizmo infomercials might have you think. However, there is a definite methodology when it comes to optimal ab training.

As you read this report, keep in mind that training for appearance and training for function are vastly different concepts. If you just want to have a great six-pack, then lowering your body fat levels will get you 90 percent of the way to your goal.

On the other hand, if training for maximum athletic performance is your objective, things get a bit more refined. If you’d like additional details on this subject, check out the resources section of this report, and/or sign up for my free online newsletter at:

www.IntegratedSportSolutions.com

A Note About Individuality:

Although people's similarities tend to outweigh their differences, it's important to consider that not everyone's abs will look the same once a sufficiently low bodyfat percentage has been achieved. Check out photos of Boyer Coe, one of America's most successful bodybuilders from a few decades ago. Boyer's abs never had that "six pack" look even at astonishing low levels of bodyfat. This is because a small percentage of individuals are born with fewer musculotendinous intersections in the rectus abdominus muscle.

People also vary greatly in terms of where they tend to store bodyfat...this is what leads to the various myths about lower abdominal training— since most people (males in particular) tend to store their fat on the lower abdominal wall, they end up with the idea that somehow they aren't training their "lower abs" correctly. Nothing could be further from the truth.

The MOST important concept to understand is that, regardless of people's individual differences, the overwhelming majority of people can greatly improve the appearance and functioning of their abdominal muscles. I sincerely hope that this guide proves to be an important first step in that direction.

Charles Staley
Las Vegas, Nevada
September 20, 2002

Myth #1: If You Have a Wide, Blocky Waist, There's Nothing You Can Do About It

Fact: This myth leads some to avoid some to avoid ab work altogether (see Myth #4 below) and others to stick to high reps in hopes of "toning" their waistline (see Myth #2 below).

While it's true that there's not much that can be done about a genetically wide waist (typically due to a wide pelvis), you CAN create the illusion of a narrower waist by putting more mass on other muscle groups, particularly your legs and shoulders. When you create additional lower and upper body width, your waist will actually be narrowed by comparison. So, in many respects, squats and military presses may do more to improve the appearance of your waist than any amount of crunches.

Fact: Just to set the record straight, “tone” refers to a partial, involuntary state of contraction— typically the result of a recent workout or other stress to the muscle. Problem is, if you’re abs are covered by fat, it won’t matter how toned they are, because you won’t be able to see it anyway! So once again, we’re back to the simple truth that having great abs come down to energy management…you need to coax your body into reducing it’s fat stores by reducing calories and by doing more physical work.

Now back to reps: at the end of the day it’s not so much how many reps you do, or how many sets you do, but how much WORK you do. In other words, for any given muscle or muscle group, if you lift, say, 135 pounds for 3 sets of 20 repetitions in 15 minutes (which most people would call “high reps”), you’d get a total volume of 8100 (135 x 60 reps) for that 15 minute workout. On the other hand, if you perform 6 sets of 10 with that weight, you’ll also get 8100 pounds. Or, if you lift 185 pounds for 4 sets of 11, you’ll get a total volume of 8140 pounds. So as you can see, there are many ways to skin a cat. On this issue, I agree with Nike: Just Do it!

Myth #2: High Reps Are For Tone; Low Reps Are For Bulk

Myth #3: You have To Focus On Your Lower Abs, Which Are The Hardest Area To Develop

Fact: Ah, the dreaded “lower abs” myth! If you’re like most people, Mother Nature prefers to deposit your abdominal fat below your navel. This leads to the never-ending search for the perfect “low ab” exercise. But wait! Unfortunately, there is no direct metabolic pathway to the lower portion of your rectus abdominus muscle and the fat layer on top of it!

Bear with me as we do a bit of anatomy here: Physiologically, the rectus abdominus muscle spans the distance from your sternum to your pelvis— this muscle does not have a “lower” and an “upper” section (although it does have between 2-4 tendinous “intersections” along it’s length— hence the term “6-pack”). Interestingly, the lower section of this muscle does indeed have a separate nerve supply than the upper portion, leading some to speculate that one can devise specific training drills that target the “lower abs.” I disagree: assume a crunch position on the floor and place one hand on your upper abs and the other on your lower abs so that you can feel the muscles contract as you perform a crunch. As you curl yourself up into the crunch, you’ll feel both portions of your rectus abdominus contract simultaneously. And, as noted before, even if you could preferentially target your so-called lower abs through a particular exercise, who cares? The fat on top of your abs (or anywhere else for that matter) will decrease only when you’ve created an energy deficit by decreasing calories and/or increasing your activity levels. Most ab exercises burn relatively few calories compared to big compound exercises such as squats, deadlifts, bench presses, and pull-ups.

Myth #4: Too Much Ab Work Gives You a Big Waist

Fact: Very few individuals are capable of significant muscular hypertrophy of the abdominal muscles, which could theoretically lead to a larger waist. Why? First, these muscles have a relatively small proportion of fast muscle fiber (the type most capable of enlargement). Secondly, the architecture and tissue leverage of these muscles makes them less capable of significant growth as compared to longer, better levered muscles like the quads, lats, and hamstrings.

I suspect this particular myth stems from the current crop of elite bodybuilders, who possess distended abdomens (despite exceedingly low body fat levels)— this is most likely a function of anabolic drug use and is not a concern for those who do not use these drugs.

One interesting side note on waist size: through heavy rows, squats, deadlifts, and back extensions, it is possible to significantly enlarge the lumbar extensors of the spine. This would increase your waist size, however, it would not lead to the appearance of a larger waist.

Myth #5: Crunches Are Better Than Sit-Ups For Isolating The Abs

Fact: First, let's consider the word "isolate," which is a myth unto itself:

Rarely can a specific muscle be isolated during a physical task. Check out the following passage from Deane Juhan's Job's Body (available through http://www.amazon.com):

"...let us imagine ourselves observing a person who is standing erect and executing the simple gesture of raising their straight right arm to the side until it is horizontal. The fibers in the deltoid, the supraspinatus, and the upper trapezius will contract to produce the primary motion, while the fibers of the pectoral major, the pectoral minor, and lattisimus dorsi must simultaneously extend to allow it. But the contraction of the right trapezius will not only raise the right arm, it will also tend to pull the neck toward the right; therefore the left trapezius, along with the other muscles of the neck, will have to contract as well in order to stabilize it. Furthermore, the extended right arm will overbalance the torso to the right, so the erector spinae muscles on the left side of the spine must contract to brace the whole torso and keep it erect. And since this contraction of the left erector spinae set will tend to pull the left side of the pelvis up as well, the gluteus medius and minimus of the left side must also brace to hold the pelvis level. Since not only the torso, but the body as a whole is threatened with tipping by the overbalancing weight of the extended arm, the right leg must brace as well, using fibers in the hip, the thigh, the calf, the feet, the toes."

With that understanding in hand, let's look at sit-ups versus crunches:

It is true that sit-ups involve more muscle groups than crunches. That's because a crunch involves trunk flexion only (the act of "rolling up" such that your spine leaves the floor one vertebrae at a time), whereas a sit-up involves flexing at the hips (involving the hip flexor muscles of course) once you've completed the act of trunk flexion. So in essence, crunches primarily challenge the rectus abdominus muscle, and sit-ups target the rectus as well as the hip flexor musculature. Which is best? Neither, in my opinion. By all means do them both, but remember that far more calories are burned by training larger muscle groups such as the quads, hamstrings, lats, and pecs.

Myth #6: You Can (Or Can't) Work Your Abs Every Day

Fact: The optimal frequency of any type of training is a function of two factors: how intensely you train, and the total amount of training your body must recover from. Therefore, if your ab training sessions are super-grueling, it's probably best to train them 2-3 times per week. On the other hand, if your ab training is more on a "maintenance level" schedule, it may be possible to train them every day without negative consequences.

One word of caution however: Intense squatting, deadlifting, and/or overhead lifts should be performed on fresh abdominal muscles. This is because the abdominals play a key role in raising intra-abdominal pressure during these lifts, which functions to decrease pressure on the intervetrebral disks in the lower back. If you perform, for example, heavy squats when your abs are tired from the previous day, you may significantly increase your risk of low back injury. This fact is partially responsible for the common practice of training abs at the end of a leg workout— this positioning ensures that your abs will be as fresh as possible during the subsequent leg workout.

As a related observation, it's sometimes interesting to examine the motivation behind one's training practices. In this case, what would motivate someone to want to perform abdominal work every day? In most cases, it's the misguided belief that large volumes of abdominal work will somehow reduce the size of the waistline (we've already covered this misconception in Myths 3 and 5).

Myth #7: You Should "Suck In" Your Navel During Squats and Deadlifts To Help Stabilize Your Spine

Fact: The idea behind this rather impractical advice stems from the fact that drawing the navel toward the spine helps to activate the deepest layer of your abdominals (called your transverse abdominus), which functions to protect the spine (by increasing intra-abdominal pressure, mentioned earlier) during heavy lifting. Sounds like a no-brainer right?

Well, here's my take on it: the transverse abdominus (also called the TVA) does in fact increase intra-abdominal pressure, which is a very good thing. Your body has its own innate intelligence, and it already knows how to protect your spine during heavy lifting, without the rather counter-intuitive maneuver of drawing your navel inward when squatting. As it turns out, virtually everyone will instinctively hold their breath and "bear down" (called a Valsalva maneuver) when attempting a heavy lift. So it basically comes down to this: does it make more sense to use a natural, instinctive maneuver, or something that feels completely unnatural? I'll leave that decision to the reader, however, I do know that when push comes to shove and you really need to stabilize your low back during a heavy lift, your body will use the Valsalva maneuver every time.

By the way, a decidedly "low tech" way to discover the best way to do things is to look at people who do it most successfully—success isn't an accident after all. In the case of squats and deadlifts, I am not aware of a single elite-level powerlifter or Olympic-style weightlifter who sucks in his or her navel when performing heavy squats or deadlifts.

Genetic constraints notwithstanding, whether or not your abs are enviable or regrettable is mostly a function of your overall body-fat percentage, which is most effectively lowered through an intelligently-designed exercise and nutritional program, which in turn must be supported by a healthy lifestyle and smart time and energy management strategies. Issues such as lower versus upper abs, high versus low reps, and sit-ups versus crunches (among other issues) really account for less than 2% of the final result. My recommendation is to continue with your ab work, but keep things in perspective: if you want great abs, you've got to lower your body-fat levels through sound nutrition and smart, intense training for all of your major muscle groups.

The Bottom Line About Your Waistline

Anatomy Overview

The "core" region of the torso consists of the abdominals (the rectus abdominus, transverse abdominus, and the external and internal obliques), the back extensor muscles (erector spinae), and the side flexors (the quadratus lumborum). The abdominals include the rectus abdominus, internal and external obliques, and transverse abdominus.

Rectus Abdominus

The rectus abdominus originates at the diaphragmatic arch, and inserts into the pubic symphysis of the pelvis. It functions to cause trunk flexion, such as when performing the crunch exercise.

The primary role of the rectus abdominus is trunk flexion (seen when the sternum and pelvis are drawn toward each other). Therefore, the most direct and effective exercises are those which cause trunk flexion, such as the various types of crunch exercises.

Although the rectus abdominus can be trained through "hanging leg-raises" and related movements, these exercises are extremely difficult to perform properly, even for very strong athletes. Usually, athletes performing these exercises tend to use primarily hip flexion, with the abdominals contracting statically to stabilize the movement. Think of hanging leg raises as a hip flexor exercise, unless 90 degrees of hip flexion can be maintained while flexing and extending the trunk.

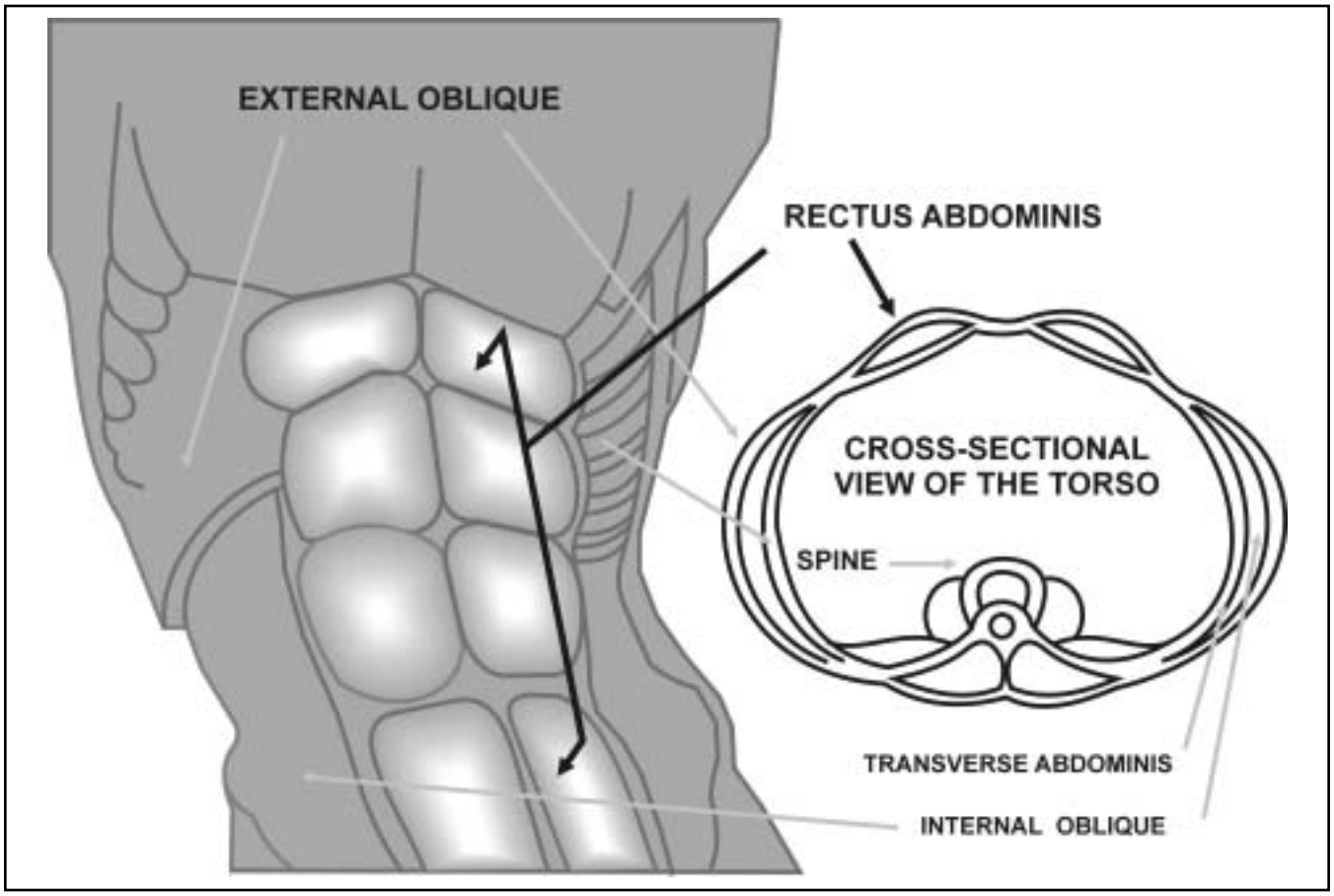
Obliques

The internal and external obliques form the middle layer of the abdominal wall. They cause flexion-rotation of the trunk (visualize this by "crunching" the torso so that the right hip and left shoulder approach each other). Acting together, the left and right obliques assist the rectus abdominus in pure trunk flexion.

Transverse Abdominus

The transverse abdominus are the deepest layers of the abdominal wall, and are one of the primary respiratory muscles. It is quite difficult to "train" in a pure sense. Athletes come closest to training the transverse abdominus when performing a heavy squat or deadlift, or during a hard sneeze or cough. The abdominals are antagonistic to the spinal extensors.

The abdominals function as part of a kinetic chain, which also includes the neck and hip flexors. Interestingly, many abdominal "rollers" sold through infomercials ignore this fact, creating devices which allow trunk flexion with no tension on the neck flexors. Although occasional use of these devices should cause no harm, chronic use might negatively alter the functional relationship between the links of the flexor chain.


EXTERNAL OBLIQUE
RECTUS ABDOMINIS
CROSS-SECTIONAL
VIEW OF THE TORSO
SPINE
TRANSVERSE ABDOMINIS
INTERNAL OBLIQUE

1) Reduce consumption of refined carbohydrate (breads, pastas, white rice, potatoes, grains, cakes, cookies, etc.) to a bare minimum, especially later in the day.

2) Virtually all meals should contain a fiber source, expect for post-workout meals, which should ideally be a fast-absorbing protein/carb shake. Check out a cool product called Fiber Smart at www.infinityfitness.com. This is a unique, dietary fiber made from flax seeds and other top quality ingredients to support proper function and health. It also contains Acidophilus and Bifidus to promote a health bacterial balance and amino acids to support a healthy digestive lining.

2) Eat every 3 hours for a total of 5 to 6 meals per day. No exceptions. Schedule meals as if they were appointments with yourself— because that's what they really are when you think about it.

3) Calculate or estimate your lean body mass (total weight – fat weight) and eat one gram of animal-source protein per pound of lean bodyweight per day, divided into 5 or 6 meals. For an individual who weighs 200 pounds and is 15% body fat, this would mean 170 grams per day, which would equate to 5 meals containing 34 grams of protein per meal.

4) Hydrate! My recommended water intake is 60 percent of your bodyweight in pounds, converted to ounces, per day. For example, if you weigh 150 pounds, drink 90 ounces of water per day.

5) Watch out for "hidden" sources of fat and sodium such as various salad dressings and condiments.

6) Educate yourself on the caloric value of what you eat. If you're not losing weight (fat) you'll need to eat slightly less calories, and/or increase caloric expenditure (via exercise). There may be some trial and error at first as you learn more about how many calories you'll need to create an energy deficit. Violate this rule and you are toast.

7) Develop strategies to cope with difficult situations, such as family get-togethers and going out to eat. Fast food? Yes— it's called grilled chicken sandwich. Fries, no.

8) Virtually all breakfast cereals are to be avoided— they almost always contain high levels of calories, sugar and non-existent protein and fiber content— the worst possible type of food.

9) Some saturated fat is OK, but it's easy to take in more than you realize…be careful with salad dressings, condiments, grilled meats, fried foods, Chinese food, gravies, etc.

10) Stop analyzing everything to death and get down to basics— it's not that difficult to figure out how to eat right. Which brings us to…

11) "Simplexity:" OK, let's get down to brass tacks here— EAT LESS! I'm often asked about the fat loss value of various foods like grapefruit, cider vinegar, etc. My patented response is "Any food will make you lose weight— if you eat too little of it." A little trick is in order here— the next time you feel hungry, instead of giving in to it and feeling deprived, tell yourself "OK— this is good— it's a sign that I'm doing the right thing." Trick yourself into believing that being hungry is desirable.

12) Tips For "Cheaters:"

• If you cheat: DO NOT, I repeat DO NOT change your next meal. I see many clients who overeat at one meal and then under eat at the next meal as a kind of "payback." All you did now was screw up TWO meals.

• If you cheat: get right back on track. A lot of people think after cheating— I've blown it— so I might as well REALLY blow it! Let me ask you— if you get a flat tire do you get out of your car and slash the other three? Hey, you have a flat tire— might as well have four, right?

13) Hunger is a sign that your body is lacking in energy. At this point your body will use stored fat as a fuel source. It's a good thing. While I agree that calories are not created equal— it's tough to argue that eating less calories will cause anything other than weight loss. It's the law of thermodynamics.

About The Author

Charles Staley is the "Secret Weapon" to numerous Olympic and Professional athletes in a variety of sports. A renown expert in the field of Sports Performance, Charles has written hundreds of published articles in popular magazines such as *Muscle Media,* Ms. Fitness, *Men's Health, Muscle & Fitness,* and *Testosterone.net*. When the elite of the sports world want progressive, "out-of-the-box" solutions in their quest to reach World-class levels of performance—they come to Charles.

As an Olympic weightlifting coach, former martial arts coach and competitor, as well as a Master's Level Track and Field athlete, Coach Staley practices what he preaches and is widely sought after by the leaders in the industry to speak on the topics of Human Performance and Sports Training. Coach Staley also publishes a Free Online Newsletter where you can read the latest in advanced training techniques as well as a Member's Only - Elite Coaching Group of coaches, personal trainers, athletes, and everyday people looking to enhance physical performance and physique transformation.

Notes