The IRON MAN Training & Research Center and X-Rep.com Present

3D Muscle Building

Continuous Tension

Stretch Overload

Muscle Synergy

Featuring Positions-of-Flexion, Mass F/X Training and the 20-Pounds-of-Muscle-In-10-Weeks Program

by Steve Holman with Jonathan Lawson
INTRODUCTION

When I first started working out with weights, I weighed less than 120 pounds—rail thin with bottom-of-the-barrel bodybuilding potential. I was 15, and I knew nothing about genetic limitations or I would’ve become a distance runner. My muscle-building pedigree was chihuahua-like. I was from very scrawny stock: When my parents married in their early 20s, my mother weighed 95 pounds and my father 115. But even after realizing my structurally challenged state, I still believed I could build an impressive, attention-grabbing physique. I was determined to find a muscle-building solution.

I entered college in the early 1980s, still skinny as a stick (embarrassed to admit that I worked out because I didn’t look like I did). Fortunately, research materials were plentiful at the huge university I attended, the University of Texas at Austin, and I was able to find some applicable physiological interpretations that spurred my progress—but only slightly. I was still rail thin, so I continued to plow through books, abstracts and studies on anything even remotely related to muscle hypertrophy. My obsession fueled a relentless pursuit—that did eventually pay off.

After poring over reams of research material, I came across a phenomenon that occurs when a muscle is stretched and then forcefully contracted. So I began including for every bodypart at least one exercise that had a full-stretch component (an animal study later, in the ’90s, produced a 300 percent increase in muscle mass with only one month of stretch overload—so I was on the right track!). I was amazed at the growth spurt I got, but I knew there was still something missing. I didn’t start packing on real size until after I put the other parts of the puzzle into practice—properly combining stretch exercises with those that involve synergy, or muscle teamwork, and peak contraction/tension. The end result was full-range-of-motion training that could be applied to every muscle group. I soon found the perfect example of the principle in action, but I didn’t find it in scientific abstracts.

Browsing through a muscle magazine, I noticed that Arnold used a similar approach for his favorite biceps routine: dumbbell curls for synergy, incline curls for stretch and concentration curls for peak contraction/continuous tension. I tried his program—with fewer sets because of my drug-free status—and I realized that there was something almost magical about it. I used Arnold’s exercises for a month, and soon my gym buddies started asking me to hit arm shots because my bi’s were getting more peaked each week. They couldn’t believe it was the routine, but once they tried it, they became believers. There was something very powerful about that particular exercise combination (as you’ll see in this e-book).

With the help of some physiologists at U.T., I eventually put together programs for each bodypart, prototype 3D Positions-of-Flexion workouts that pushed my bodyweight close to 200 pounds. No, I wasn’t ripped at that bodyweight, but nevertheless it was an 80-pound gain from my starting weight—damn good for a drug-free hardgainer—and I soon entered and won my first bodybuilding contest.

Since then I’ve refined the concepts and gotten a much bigger and better physique along the way despite my scrawny genes (I’m now ripped at 200 pounds, as in the photo above). I also conducted an experiment with Jonathan Lawson in the late ’90s that kick-started his gains by packing 20 pounds of muscle onto his frame in 10 weeks. I’ll analyze and revise his program in this e-book so that you can make similar, or even better, gains and integrate relatively new concepts, such as X Reps, that have allowed me, Jonathan and others across the globe to grow faster than ever. It’s 3D POF, with a size side effect from the fourth dimension. Are you ready? Fasten your seatbelt and prepare for warp-speed muscle growth!
3D Muscle Building was written to help you get closer to your physical potential with sensible bodybuilding strategies. Weight training is a demanding activity, however, so it is highly recommended that you consult your physician and have a physical examination prior to beginning a weight-training program. Proceed with the suggested diets, exercises and routines at your own risk.

Photography by Michael Neveux
Illustrations by Larry Eklund
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3D Muscle Building

1) Midrange
2) Stretch
3) Contracted
1

3D POF: Weapon of Mass Construction
What is Positions of Flexion? You saw some hints in the introduction—it's a three-dimensional full-range muscle-building protocol that can help you build mass quickly. It's packed as much as 20 pounds of muscle onto bodybuilders' frames in as little as 10 weeks. Bodybuilders all over the world have found it to be a straightforward, scientific training approach that's based on muscle function rather than convention, and it's extremely efficient (no wasted effort, which means shorter workouts!). Once you light the short POF fuse, you'll get more mass bang for your effort buck than you've ever experienced before—if you don't abuse its power. It's truly a weapon of mass construction.

POF shows you how to choose exercises that train each muscle through its entire range of motion, or ROM, to trigger extraordinary fiber recruitment at every workout. That means faster, more complete muscle development from fewer sets. Don't misunderstand: Full-ROM training isn't doing an exercise through its complete stroke, which is normally what you think when “full-range training” is mentioned; instead, it's training each muscle with the right exercises, so that with one you hit the target from a full-stretch position, with another you blast the contracted position with continuous tension, and you also hit one position in between, usually with a compound, or multijoint, exercise, to get power-packed muscle synergy. In other words, the 3D approach allows you to work a muscle's full arc of flexion—and build mass fast! You'll feel it happening!

Achieving full ROM for a muscle may take one, two or three exercises (sometimes one exercise can cover two arcs of flexion), but it never takes more than three to get the job done—one each for the stretch, midrange and contracted positions. That complete multi-angular attack develops fuller muscles by triggering more fibers to fire—which may startle you the first time you try it if you're new to 3D POF.

In fact, many bodybuilders express their surprise, even shock, after putting it to the test, commenting that they thought their skin might tear because the influx of blood was so fast and furious. That's a direct result of the extreme muscle fiber recruitment you get when you train a target muscle through a full range of motion—an immediate size surge via a full-blown pump. The target muscles get so much stimulation that there's a massive blood flow to the area after only a few sets. It's a condition bodybuilders strive for—and not just because Arnold compared it to an orgasm in "Pumping Iron." The pump can be a signal that the muscle has been stressed enough to grow, it helps create an environment in which more of the muscle fibers can fire (occlusion research proves that) and it can also help stretch the fascia, the muscle-fiber encasements, that can restrict growth if they're left to remain tight.

Let's start with a perfect example of 3D POF, Arnold's biceps routine—barbell or dumbbell curls, incline dumbbell curls and concentration curls. It hits the target from three dimensions, or key positions/angles, for complete ROM:

- **Biceps midrange**: upper arms slightly in front of the torso. Barbell, dumbbell or cable curls hit the midrange position and train the biceps with synergy from the front delts. When muscles work together, the overload and fiber activation are much greater in most cases.

- **Biceps stretch**: arms angled back behind the torso. Incline dumbbell curls hit the stretch position and activate the myotatic reflex due to extreme biceps elongation, which heightens muscle fiber stimulation. (More recent studies link stretch overload to hyperplasia, or fiber spitting, with one achieving a 300 percent increase in animal muscle tissue after only 30 days of stretch-induced stress!)

- **Biceps contracted**: arms up and away from the torso. Concentration curls
hit the contracted position with resistance at the point of maximum contraction, but that contracted position is actually the target muscle's weakest point. The real key to contracted-position effectiveness is continuous tension, no rest during the set, which blocks blood flow to the muscle. That occlusion is a powerful anabolic stimulus and also produces a potent anabolic jolt after the heightened fiber activation created by the stretch-position movement.

Once you understand the full-range concept, you can see why POF works and why it creates a skin-stretching pump in only a few sets. You totally stimulate the muscle fibers by triggering the stretch reflex in a routine that trains each bodypart through its complete arc of flexion. Muscle physiology dictates that full ROM and the myotatic reflex, along with occlusion and muscle synergy, can combine to ignite an extreme hypertrophic adaptation.

Okay, let's start from the top—or the middle, in this case—with the POF midrange position, where you get the most fiber involvement.

**Midrange.** The first exercise in a standard POF approach is a midrange movement. The mass-building exercises, as they're known, train the majority of the target-muscle fibers with heavy weight—giving them max-force overload—so it makes sense to give them priority most of the time. These core exercises are so powerful for good reason: Midrange movements involve muscle teamwork, which means that a number of muscle structures gang up to move the weight, with the target muscle as the prime mover, or leader of the pack. For example, the squat is a midrange exercise for the quads, and the glutes, hamstrings, lower back and even calves get in on the action to help the quads power up heavy iron for tremendous front-thigh overload.

You can see why these exercises are at the core of every POF routine—they build mass, plain and simple. Here's a list of some of the best midrange movements for each bodypart:

- **Quads:** squats
- **Hamstrings:** feet-forward Smith-machine or hack squats
- **Calves:** weight-bearing cardio (treadmill, hill setting), knee-extension leg presses
- **Lats:** V-handle chins, parallel-grip chins or pulldowns to the front
- **Midback:** trained with lat midrange—or behind-the-neck pulldowns
- **Deltas:** overhead presses (anterior/medial heads), upright rows (medial head)
- **Chest:** bench presses, decline is best, or wide-grip dips
- **Biceps:** barbell curls or close-undergrip pulldowns or chins
- **Triceps:** lying extensions or close-grip bench presses (slight decline is best on both) or elbows-flared pushdowns or dips
- **Abdominals:** incline kneeups

Synergy allows you to ignite tremendous firepower because muscles work most efficiently as part of a team. It's the way the body is designed to function. POF midrange movements all have synergy, and you can build impressive muscle size and strength in each bodypart just by using them alone (there are suggestions in
chapter 11 on how trainees pressed for time can build mass with only two sets of a midrange move for each bodypart, nothing more); but you can get even better results when you follow your midrange exercises with movements that target the stretch and contracted positions.

**Stretch.** Stretch-position movements, the second exercise in standard POF protocol, are excellent at activating the myotatic reflex. Training the target bodypart at its maximal point of elongation—for example, incline curls for the biceps or overhead extensions for the triceps—can force an emergency response from the target muscle and bring new fibers into the action, ones the midrange movement may have missed—and that means a bigger, better growth response. Here’s how the phenomenon is defined in the book *Explosive Power*, published by Health For Life:

“The stretch reflex originates deep inside each muscle fiber with a structure called the muscle spindle. The muscle spindle is a complex construction of muscle protein, fluid and nervous system receptors. Within this structure is a special type of muscle fiber that does not have the contractile qualities normally associated with muscle. These special fibers, called intrafusal fibers, are wrapped with nerve cells that relay information from muscle to the central nervous system. When a muscle is stretched quickly, the tension in the intrafusal fibers stimulates these nerve cells, sending messages out to the central nervous system at great speed. In response, the central nervous system triggers a muscle reflex that generates a fast and powerful contraction. This myotatic, or stretch, reflex is a protective mechanism that provides an extra burst of strength to resist force encountered suddenly. When the reflex is triggered, a very large proportion of the muscle’s fibers suddenly contract.”

When you use a stretch-position exercise, such as flyes for the chest or pull-overs for the lats, the target muscle reacts with an emergency response, which can cause more muscle fibers to fire. The reason an emergency reaction occurs is that you’re training the muscle in a somewhat vulnerable position—at a point of full elongation.

By activating more fast-twitch fibers in the target muscle, you stimulate faster development. Stretch-position exercises are also believed to trigger more anabolic hormone release, such as IGF-1 (and don’t forget about the possibility of fiber splitting) and more force production, but not as much as midrange exercises. Here’s a list of stretch-position exercises for each muscle group:

- **Quads:** sissy squats
- **Hamstrings:** semi-stiff-legged deadlifts (a.k.a. Romanian deadlifts)
- **Calves:** donkey calf raises or leg-press calf raises
- **Abs:** cable crunches with low-back support or Ab Bench crunches
- **Chest:** dumbbell flyes
- **Lats:** pullovers
- **Midback:** close-grip cable rows or one-arm dumbbell rows
- **Dels:** incline one-arm laterals or one-arm cable laterals
- **Biceps:** incline curls
- **Triceps:** overhead extensions or cable pushouts (in a forward-lunge position)

You’ll really feel these exercises in the target muscle, especially when you do them after a big midrange movement. The pump and burn will be unreal—and in some cases almost unbearable, especially if you add an extended-set technique for ultimate fiber recruitment like X Reps (more on that later).
To finish off the target muscle and complete the full-ROM chain, you follow the stretch-position exercise with a contracted-position movement for that final growth jolt (although keep in mind that in some POF programs you don’t work all positions at every workout; you can train midrange and stretch at one session and midrange and contracted at another).

**Contracted.** The last exercise in a standard POF bodypart routine is the contracted-position movement, which trains the target muscle group at the point of complete contraction with resistance and continuous tension—for example, leg extensions for the front thighs after squats (midrange) and sissy squats (stretch). An exercise with resistance in the completely contracted position is the best way to finish off a target muscle after as many fibers as possible have been activated with the midrange- and stretch-position movements. Most bodybuilders instinctively crave a final squeeze on a pumped muscle to finish it off, and contracted-position exercises provide that—but they do much more. The continuous tension also maxes out the pump for that skin-as-tight-as-a-drum feeling. That excessive fullness is due to occlusion, which essentially creates a bodypart blood-bath immediately after. Here’s a quote from *Beyond X-Rep Muscle Building* that hammers home the importance of the occlusion phenomenon:

“Rob Thoburn, muscle-science researcher, has been corresponding with Japanese scientists who have been experimenting with Kaatsu, or occlusion, techniques. Thoburn reported that Takashi Abe, Ph.D., got a 7 percent increase in quadriceps cross-sectional area in four months with standard training, but when he used occlusion, he got an 8 percent increase in cross-sectional area—in only two weeks! That’s right, better results in about one-eighth the time—two weeks as opposed to 16 weeks. That’s about an 800 percent increase in gains when blood flow was impeded. Wow! You can see why the biggest bodybuilders include continuous-tension sets in their routines—they force blood out of the muscle and create those mass-and-strength-increasing occlusion effects.”

Here’s a list of contracted-position exercises for each muscle group:

- **Quads:** leg extensions
- **Hamstrings:** leg curls
- **Calves:** standing calf raises
- **Abs:** crunches
- **Chest:** cable flyes, cable crossovers or pec deck flyes
- **Lats:** stiff-arm pulldowns or machine pullovers
- **Midback:** bent-arm bent-over laterals
- **Upper midback (upper traps):** shrugs
- **Deltas:** lateral raises
- **Biceps:** concentration curls or double-biceps cable curls
- **Triceps:** one-arm pushdowns or kickbacks

The underlying concepts of 3D POF are simple: If you hit a muscle from three specific angles that cover the full range of motion of that muscle, you stimulate more fibers and create a number of anabolic cascades in the body. No wonder it takes so few sets to trigger an extraordinary mass response with POF! Remember, the key point is that the angles you cover with your chosen exercises should complement one another so together they complete the full-ROM chain. Using triceps as an example, decline close-grip bench presses (midrange), overhead extensions (stretch) and kickbacks (contracted).
Each position can involve different fibers and different recruitment patterns, producing full, extreme development quickly. Exciting stuff, especially to the hardgaining bodybuilder with genetics similar to mine when I started. Here’s a quote from *Designing Resistance Training Programs* by Steven J. Fleck, Ph.D., and William J. Kraemer, Ph.D., two of the most respected researchers in the strength-training field, that corroborates this multiangular mass-building approach:

“If the body position is changed, the order of recruitment can also change (Grimby and Hannerz 1977). The order of recruitment can also change for multifunctional muscles from one movement or exercise to another. Recruitment order in the quadriceps for the performance of a knee extension is different from that for a squat. The variation in recruitment order provides some evidence to support the belief that to completely develop a particular muscle it must be exercised with several different movements or exercises.”

Advanced bodybuilders do more than one exercise per bodypart for that very reason—to develop as many fibers as possible to extraordinary levels. Keep in mind, however, that a lot of advanced bodybuilders use the shotgun approach when it comes to multiangular training, with no rhyme or reason to their exercise selection, which can lead to overlap, wasted effort and overtraining if you don’t have pharmaceutical help (that’s the reason so many use steroids—to recover and grow from the excessive training they think they need to “cover all the angles”).

Full-range-of-motion POF works because it produces almost complete target-muscle stimulation with the minimal amount of work. If you’re still not convinced multiangular training is necessary, consider the following quote from Jaci Van Heest, renowned exercise physiologist at the United States Olympic Training Center in Colorado Springs, Colorado:

“Muscles contract when tiny levers on myosin, a muscle protein, fit into grooves on actin, another protein, and push it forward exactly like a ratchet wrench. But myosin can latch onto actin in any of several positions, not all of them ideal. Only when the myosin heads are in the right register can the muscle have the optimal tension. But optimizing every actin-myosin pairing is less an achievable goal than a Platonic ideal.” (*Newsweek*, July 22, 1996: “How High? How Fast?”)

You need more than one exercise to optimize as many actin-myosin pairings in the target muscle as possible. A midrange-, stretch- and contracted-position exercise for each muscle gets you there, triggering extraordinary growth. If you haven’t quite grasped the concept, don’t worry: You’ll see specific 3D POF bodypart routines in the coming chapters—updated programs you can start using at your very next workout for exciting new muscle gains!

If you’ve never used it, be prepared for some unusual soreness—and some exciting new muscle size. You’ll soon see why 3D POF is becoming an integral part of so many successful bodybuilders’ training arsenals the world over. In the next chapter you’ll get an inside look at what it did for Jonathan Lawson the first time he tried it—almost 20 pounds of muscle in 10 weeks! He built his muscular base structure in two months, not two years! You’ll see his before and after photos in the next chapter—a twig-to-big transformation. Could it do the same for you?
Jonathan Lawson’s
3D
Size Surge
Jonathan Lawson has been my training partner since the late ’90s when he became our beta-test subject for 10-Week Size Surge, a weight-gain program by IRON MAN Publishing. It was his first experience with 3D POF. Results: He gained an amazing 20 pounds in that short period, most of which came during the second five-week 3D POF phase.

He used two workouts for five weeks each. The first was a basic anabolic-primer program that had him work arms directly on Wednesday, along with deadlifts, calves, abs and forearms. Monday and Friday were the same—legs and upper-body work, no direct arm training, ab work or deadlifts.

The second five weeks, when he made his best gains, he used a 3D POF program—he trained every other day, alternating the workouts. His story is interesting, and inspiring, so I’ll let him tell it…

“Like most teenagers who start bodybuilding, I wanted to be so big and muscular that jaws would drop when I walked on a beach. Whether you’re young or old, a muscular physique is a great way to get noticed and elevate self-esteem. I also had dreams of competing in the sport of bodybuilding. After I’d been lifting weights for a few years and had progressed to a respectable level of size and strength, that dream seemed to be a little closer, but many told me I needed “extra” help to get there. I didn’t listen. I refused to resort to bodybuilding drugs. They were out of the question (and still are) for me because the rewards simply weren’t worth the risk. I decided to rely solely on training and nutrition.

“At age 19 I entered my first contest—with lots of prodding from friends and family. I didn’t place well, which I expected because I knew I needed more muscle size if I wanted to make a strong showing. I entered anyway, primarily for the experience that would help me in later contests once I achieved my goals—without drugs. I keep emphasizing my drug-free status because, as any competitive bodybuilder knows, the thought of using anabolic steroids—as well as the “what if”
possibilities—are always there. The bodybuilders at my gym who used such drugs continued to tell me I couldn’t compete successfully without them. I tried not to listen, but their words echoed through my mind almost daily. Rather than succumb to the temptation, however, I used their words to fuel my workout intensity. They only made me stronger in my conviction that I could do it drug-free.

“While I did improve my physique, the real size I was seeking didn’t materialize no matter what I tried. I began to think that the drug users at the gym were right, that it was impossible to build exceptional size and strength without anabolic steroids. Rather than risk my health and convictions, I let my training gradually slack off and fall by the wayside. By the time I was 21, my bodyweight had leveled off at a soft 190 pounds at 5’11”, and I began to refocus my priorities.

“As chance would have it, I got a job in the product division of IRON MAN magazine and met Steve Holman, the editor in chief. He told me he had developed programs that could add pounds of muscle to just about anyone’s frame in a few months. Talking to Steve motivated me to start training hard again, and here’s the real kicker: I then convinced him to train with me. When he agreed, I felt a wave of motivation unlike any I’d ever felt before. Steve had developed the 3D Positions-of-Flexion muscle-building system, so I had a good feeling that he could help me take my muscle size and strength over the top.

“Steve wanted me to be the test subject for his 10-Week Size Surge program, so that motivated me even more. I trained hard, ate well and consistently and focused on doing my best at every workout. Here are the two programs I used:

### Phase 1: Monday

Five weeks; first week stop a rep or two short of failure on all work sets.

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
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<tbody>
<tr>
<td>Squats*, 2 x 7-9</td>
<td></td>
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<tr>
<td>Leg extensions, 1 x 7-9</td>
<td></td>
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<tr>
<td>Semi-stiff-legged deadlifts*, 1 x 7-9</td>
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<td>Leg curls*, 1 x 7-9</td>
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<td>Bench presses*, 2 x 7-9</td>
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<td>Flat-bench flyes, 1 x 7-9</td>
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<tr>
<td>Incline dumbbell presses, 2 x 7-9</td>
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<tr>
<td>Chins or pulldowns*, 2 x 7-9</td>
<td></td>
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<tr>
<td>Bent-over rows*, 2 x 7-9</td>
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<td>Dumbbell presses*, 2 x 7-9</td>
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<tr>
<td>Dumbbell upright rows, 2 x 7-9</td>
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<tr>
<td>Leg press or donkey calf raises, 2 x 12-18</td>
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</tbody>
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*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.
**Phase 1: Wednesday**

Five weeks; first week stop a rep or two short of failure on all work sets.

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<tbody>
<tr>
<td>Deadlifts*, 2 x 7-9</td>
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<tr>
<td>Standing calf raises, 2 x 12-18</td>
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<td>Barbell curls*, 2 x 7-9</td>
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<tr>
<td>Concentration curls, 2 x 7-9</td>
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<tr>
<td>Lying triceps extensions*, 2 x 7-9</td>
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<tr>
<td>Pushdowns or kickbacks, 2 x 7-9</td>
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<tr>
<td>Wrist curls, 1 x 12-18</td>
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<td>Hammer curls, 1 x 7-9</td>
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<td>Incline kneeups, 2 x 7-9</td>
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<td>Ab Bench crunch pull, 2 x 7-9</td>
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*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

**Phase 1: Friday**

Five weeks; first week stop a rep or two short of failure on all work sets.

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<td>Leg extensions, 1 x 7-9</td>
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<tr>
<td>Leg curls, 2 x 7-9</td>
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<tr>
<td>Seated calf raises*, 2 x 12-18</td>
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<tr>
<td>Bench presses*, 2 x 7-9</td>
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<tr>
<td>Flat-bench flyes, 1 x 7-9</td>
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<tr>
<td>Incline dumbbell presses, 2 x 7-9</td>
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<td>Chins or pulldowns*, 2 x 7-9</td>
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<td>Bent-over rows*, 2 x 7-9</td>
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<tr>
<td>Dumbbell presses*, 2 x 7-9</td>
<td></td>
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<tr>
<td>Dumbbell upright rows, 2 x 7-9</td>
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</tbody>
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*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.
“Two-day and a four-day alternate approaches that use the ultimate exercise for each bodypart are outlined in The Ultimate Mass Workout e-book.

“The gains really started piling up during the second five weeks after I started the 3D POF phase of the SS program because it’s more thorough in the muscle-fiber activation department. Here’s the workout I used. (An updated revised version appears in Chapter 10):

**Phase 2**

Five weeks; first week stop a rep or two short of failure on all work sets.

**Workout 1**

- **Quadriceps**
  - Midrange: Squats*, 2 x 7-9
  - Stretch: Sissy squats, 1 x 7-9
  - Contracted: Leg extensions, 2 x 7-9
- **Hamstrings**
  - Midrange & Stretch: Semi-stiff-legged deadlifts*, 1 x 7-9
  - Contracted: Leg curls, 2 x 7-9
- **Calves**
  - Stretch: Donkey calf raises, 2 x 12-18
  - Contracted: Standing calf raises, 2 x 12-18
- **Lower chest**
  - Midrange: Bench presses*, 2 x 7-9
  - Stretch & Contracted: Crossovers, 1 x 7-9
- **Upper chest**
  - Midrange: Incline dumbbell presses, 2 x 7-9
  - Stretch & Contracted: Incline cable flyes, 1 x 7-9
- **Triceps**
  - Midrange: Lying triceps extensions, 2 x 7-9
  - Stretch: Overhead extensions, 1 x 7-9
  - Contracted: Dumbbell kickbacks, 1 x 7-9

**Workout 2**

- **Lats**
  - Midrange: Pulldowns to the front*, 2 x 7-9
  - Stretch & Contracted: Machine pullovers, 2 x 7-9
- **Midback**
  - Midrange: Behind-the-neck pulldowns*, 2 x 7-9
  - Stretch: One-arm dumbbell rows, 1 x 7-9
  - Contracted: Bent-over bent-arm laterals, 2 x 7-9
- **Upper traps**
  - Stretch & Contracted: Forward-lean shrugs, 2 x 7-9
- **Deltoids**
  - Midrange: Dumbbell upright rows*, 2 x 7-9
  - Stretch: Incline one-arm laterals, 1 x 7-9
  - Contracted: Lateral raises, 2 x 7-9
- **Biceps**
  - Midrange: Dumbbell curls*, 2 x 7-9
  - Stretch: Incline dumbbell curls, 1 x 7-9
  - Contracted: Nonsupport concentration curls, 1 x 7-9
- **Abdominals**
  - Midrange & Lower Contracted: Incline kneeups, 1 x 7-9
  - Stretch & Upper Contracted: Ab Bench crunch pulls, 2 x 7-9
*Do one to two light warmup sets with 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

“Since my initial 3D POF experience, there have been refinements, as Steve will explain in the forthcoming chapters—and, as I said, he will outline a new and improved version of the above every-other-day split routine in Chapter 10. Even though the above program wasn't perfect, the every-other-day 3D training got me some ferocious results! To say I was shocked is putting it mildly. My muscle size took a radical leap. Here are some of my stats:

**Start**
Bodyweight: 191 pounds  
Bodyfat: 11 percent (according to the AccuMeasure calipers)  
Arms: 16 3/4 inches  
Waist: 33 inches  
Thighs: 25 1/2 inches  
Squat: 205 x 8  
Bench press: 200 x 10

**10 Weeks later**
Bodyweight: 209 pounds  
Bodyfat: 10 percent (according to the AccuMeasure calipers)  
Arms: 18 inches  
Waist: 32 inches  
Thighs: 27 inches  
Squat: 335 x 7  
Bench press: 290 x 6

“I added almost 20 pounds in 2 1/2 months. My bodypart measurements and strength increases also amazed me: arms, up 1 1/4 inches; thighs, up 1 1/2 inches; waist, down one inch; bench, up from 200 x 10 to 290 x 6; squat, up from 205 x 8 to 335 x 7. Unbelievable—and I did all that in 10 weeks with no steroids, just hard, sensible training, a regimented eating schedule and a few choice supplements. Considering my sputtering progress in the past, these gains were miraculous.

“Adding new muscle that quickly felt incredible. Thanks to the IRON MAN Training & Research Center, Steve Holman and 3D POF, I’ve been very successful in my bodybuilding endeavors since my initial Size Surge odyssey. In fact, with many of the refinements you’ll read about in this e-book, such as new POF bodypart programs, X Reps and X-hybrid techniques, I’ve achieved the physique I’ve always dreamed of having—hard and ripped at around 210 pounds (note that I had 10 percent bodyfat at that weight after the 10-week program, but new innovations, like X Reps, have helped me go above and beyond that)! And my arms measure well over 19 inches now. I’ve even made the cover of IRON MAN. Nevertheless, I’m striving to be even better, which is what bodybuilding is all about.

“I’m positive that once you try 3D POF, especially the new revised programs along with X Reps, and channel your motivation, you’ll make some of the best gains of your training career. Maybe even take your physique into the fourth dimension!”

Note: Chapters 3 through 9 will analyze and update Jonathan’s 3D POF bodypart programs individually. If you’re not into training analysis, and/or you just want the complete updated workout, see Chapter 10.
3D Calf Training
Jonathan readily admits that he wasn’t satisfied with his calf growth during his 3D Size Surge transformation—which may be why we didn’t bother measuring them. The real problem with building calves in the gym during a weight-training routine is that all the calf exercises are single-joint isolation—either contracted position (standing calf raises) or stretch position (donkey calf raises or leg press calf raises), as in Jonathan’s program above. You need midrange (multi-joint) work, as this scenario demonstrates...

I was driving to work one day, and there was a huge bicycling event going on. There were hundreds of cyclists strewn out for miles in the bike lane pedaling away. Since I’m a bodybuilder, I noticed immediately that almost all of them had pretty darned good calves—total development throughout both heads. And some of those calves were strikingly good with bodybuilding-type detail. Even most of the skinniest guys—and even girls—had impressive lower-leg development.

The question is, Why? They aren’t up on their toes during their rides. They never do full calf-raise-style reps that peak contract the muscle—and their calves never work through the full range. Their knees never even lock out, which is supposed to be how to fully engage the calves. Then the reason hit me right between the eyes as I observed how they were pedaling and their foot positions. Cyclists are essentially doing partial movement at the ankle as their foot pulses in the gastroc’s semistretched position to push down the pedal—and the quads are involved for muscle synergy. The funny thing is, most of these athletes could care less about great calves. And the sad thing is, most bodybuilders suffer through endless excruciating full-range isolation exercises that emphasize peak contraction—and the majority of those bodybuilders have less-than-impressive calf development.

There are two morals to this story:

1) Most leg-oriented cardio is midrange work for your calves. Running is good, biking is probably better because there’s a bit more continuous tension, and treadmill walking and running on a machine that has hill settings is probably best because there’s more resistance and more movement at the ankle (or you can actually go outdoors and walk and run hills for real).

2) Don’t stop your sets of isolated calf raises just because you can’t reach the top (that position is important, just not as critical as the semistretched point near the bottom of the stroke); continue repping in the bottom range, fighting the burn and blasting out partials at the sweet spot, a.k.a. X Reps (more on that extended-set technique in an upcoming chapter).

You could add inches of raw muscle to your calves in a very short time just by following those two recommendations, but to be more precise, your calf workout with weights should be specific. If you cover midrange work with your cardio, you still have two positions left (we’ve created a midrange calf exercise you can do in the gym if you’re not doing cardio or your cardio is not giving you enough mid-range stimulation, which I’ll explain in a moment). Here they are:

**Stretch:** You achieve this position at the bottom of a donkey calf raise—calves stretched off a high block, toes pointed slightly inward, knees locked and torso at a right angle to the legs. You should feel an uncomfortable pull on the gas-

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**Jonathan’s 3D Size Surge Calf Routine**

**Stretch:** Donkey calf raises, 2 x 12-18

**Contracted:** Standing calf raises, 2 x 12-18
trocnnemius muscles in this position. Leg press calf raises are also a stretched-position exercise for the calves, but your torso must be bent at 90 degrees to your legs.

**Contracted:** You reach total contraction at the top of a standing calf raise—up on toes, torso and legs in line, or on the same plane, and toes pointed slightly outward. In this position you can flex the calf, but you must realize that you can lose tension in the top position (more on that in a moment).

But there's a little more to it than just covering all the positions, or angles:

**Higher reps.** The calf is one of the densest muscle groups in the human muscular system. In other words, there are more fibers per square inch of calf muscle than there are in other muscles. And the majority of those fibers are endurance oriented, even the fast-twitch ones. There is more on muscle fibers later. Right now just understand that reps in the 15 to 25 range are best because they hit the fast-twitch fibers that have a high endurance component. Tension times for your straight sets of calf work should be about 45 seconds to one minute.

**Feel.** As with any muscle group you must put your mind into the muscle and avoid bouncing and/or throwing the weight. Rep speed is also important. One to 1 1/2 seconds up and the same speed for the down stroke is about right. But feel is more than just control; it's also about continuous tension: You should not rest the muscle at the top or bottom of any rep. (Here comes some controversy...)

You've no doubt read over and over that you should do your standing calf raises from full stretch to complete contraction at the top. “Get high up on your toes and then try to go higher.” Sounds like good, logical advice—till you analyze the movement and corresponding muscle tension.

Your calves get so much work every day that they've learned how to rest—to cheat, or divert, tension onto other muscles and/or joints whenever possible. That's why your knees want to bend and your butt wants to move back when you do standing calf raises—your calves are trying to divert a lot of the load onto your knees, quads and hips.

At the top of a standing calf raise, tension is diminished due to bone support. No, it's not in a straight line, like at the top of a bench press or squat where the target muscle can completely relax, but it's a lot like pushdowns, where tension does fall off and you can lose some of the occlusion, or blood-blockage, effects that are so important for max-growth stimulation.

And what about the bottom? It's very easy to rest your calves down low because tendons and ligaments in the foot and ankle can absorb a lot of the load and suspend your heel. That means less tension on your calves at the very bottom as well as at the very top of a standing calf raise. Do you see where this is going?

It may be that the best way to get more extreme calf growth with standing-calf movements is to just do the middle range of the stroke on most sets. Move from the semistretched point, the bottom where your heel moves slightly below the foot support, and drive up to just below the highest “lockout” point. That will keep max tension on the gastrocs as you pound out pistonlike reps. (Remember the cyclist example above? That's exactly the range they get when they pedal.)

And guess what? That's exactly how Mr. Olympia Ronnie Coleman and Olympia runnerup Jay Cutler do most of their calf work—and their calves are huge! They rep through the middle range, never reaching the lowest or highest points on the stroke. Cutler even does X Reps, or short pulse/pauses at the semistretched point, between reps or groups of reps to emphasize that critical max-force point (there's more on that in the Beyond X-Rep Muscle Building e-book; if you're interested in an analysis of how the champs train, check it out).

Okay, back to the cyclists: I discussed earlier how so many of them have full,
defined calves. If you think about how the calves work when pedaling a bike, it's all middle-range work—from a slightly heel-up position at the top of the stroke to a slightly heel-down, semistretched-point finish at the bottom. There are two ways to take advantage of that:

1) Use the knee-extension leg press calf raise as your midrange-position calf exercise. Position yourself on a leg press with only the balls of your feet on the foot plate, your knees locked. Lower the weight by allowing your feet to come toward you as you simultaneously unlock your knees. From that slight bent-knee position, and your feet in the stretch position of a calf raise, simultaneously push your knees to lockout and your feet to the top calf-raise position. Then lower your feet and bend your knees at the same time again to power out another rep. Do not pause at the top or bottom—keep your calves firing with a pistonlike cadence.

2) Try working the middle range on the last set of standing calf raises (contracted-position exercise) to keep max tension on your gastrocs throughout (shoot for 15 to 25 pistonlike reps). And when you can't get anymore of those middle-range reps, pulse at the semistretched point, where your heels are just below the foot support, to supercharge the anabolic surge (X Reps).

As for stretched-position exercises—strict donkey calf raises and leg press calf raises—you should use full-range movement on those. The bent-at-the-waist position forces tension to remain on the gastrocs at the top, preventing a lot of bone support. As for the bottom, that's the stretch position, and you already know the crucial importance of that (more anabolic hormone release and a 300 percent increase in animal muscle mass in one month!).

Soleus. Developing this muscle that lies under the gastroc gives them a fuller appearance and makes the area between the gastrocs and the ankle meatier. A developed soleus will give the illusion of a lower gastrocnemius and help to somewhat diffuse a high-calf appearance. The soleus is considered more of a power muscle, different in that regard from the more endurance-oriented gastroc. That means slightly lower reps are best; however, the stroke is short, so each rep only lasts about two seconds. Shoot for 15 reps on most sets to reach 30 seconds of tension time. The best exercise for soleus development is seated calf raises.

Here's an example of a solid updated 3D POF calf routine:

**3D POF Calf Routine**

**Gastrocnemius**

**Midrange:** Knee-extension leg press calf raises, 2 x 15-20
(See description above; you use knee flexion and extension to help your gastrocs drive the weight up on leg press calf raises, no pauses.)

**Stretch:** Donkey calf raises or leg press calf raises, 2 x 15-25
(Point your toes in slightly for maximum stretch, and at the bottom, semistretched point, use a quick twitch to engage more fibers. Do not pause at the top or bottom of the stroke.)

**Contracted:** Standing calf raises or hack machine calf raises, 1-2 x 15-20
(Point your toes out slightly and pause at the top of each rep for at least a one count for maximum contraction on the first set. On the second set, move through the middle of the stroke only and do not pause at the top or bottom.)
Soleus

**Contracted:** Seated calf raises, 2 x 12-15
(Point your toes straight ahead and do full-range reps on the first set—from full stretch to complete contraction. On the second set do the middle range only, no pause at the top or bottom of the stroke.)

Note: You work the soleus muscles’ midrange position during cardio and knee-extension leg press calf raises.

Remember, in Jonathan’s Size Surge calf routine he only did donkey calf raises and standing calf raises. He was only working the stretch and contracted positions. With the above routine he could’ve made bigger and better lower-leg gains—even without the seated calf raises (the soleus muscles get trained with midrange gastroc work). Why? Because the above routine works the calves from all angles and really gets the nutrient-rich blood pumping better and quicker than just about any calf program out there. If you have stubborn calves, give this no-bull 3D POF approach a try and watch in amazement as your calves mature into full-grown heifers.
Neither me nor Jonathan has genetically superior calves, so anytime one of us starts getting exceptional lower-leg size, we try to figure out what triggered it and log it so we never forget. During the summer months we usually get a size uptick in our lower legs thanks to more cardio (remember, that’s midrange calf work)—but last year Jonathan’s calves got even better than the year before on about the same amount of cardio. They looked almost an inch bigger. It didn’t make sense.

Sure, he was riding the exercise bike as he did the previous year, and we introduced a number of X-Rep hybrid techniques into our workouts for the first time (like X Fade and Double-X Overload), but I was doing the same routine and also running and riding an exercise bike as well. Were Jonathan’s calves just responding better to the X-Rep hybrid techniques? After all, my calves were only marginally better than the year before from the new X strategies, while Jonathan’s were much better—more size and shape and crawling with vascularity. It was a mystery that we chalked up to better genetics.

Then, lo and behold, we noticed an item in IRON MAN magazine on barefoot squat workouts. Why did the author (Pavel) suggest ditching the shoes for squats? Because of the extensor reflex. Training legs barefoot apparently causes leg muscles to contract much better due to pressure on the soles of the feet.

Ah ha! We recalled that early in the summer Jonathan had purchased some lighter running shoes to work out in. Could that have had something to do with his new calf size? He’d previously been working out in more cushioned, heavier-soled footwear on leg day. It was worth a test, so I ditched my thickly cushioned basketball shoes for the new minimalist running shoes—even less padding than Jonathan’s. And I noticed better leg workouts immediately due to firing the extensor reflex. Then I remembered that legendary trainer Vince Gironda used to demand that people at his gym train calves barefoot. (We heard he even threw some people out for not taking his advice, so he was serious!) He knew it made a striking difference in results, although he probably didn’t know about the extensor reflex. He chalked up his knowledge to decades of experience, saying it was a waste of time to train calves wearing shoes.

Well, unfortunately it’s taken me decades to figure it out also. I always thought Vince was just being a little eccentric (or that maybe he had a foot fetish). I didn’t think that such a small detail could make such a striking difference—till I actually tried it, inadvertently. Now we’re both sold on the idea, and we’re both suddenly building more calf size—and it appears our quad size is improving as well.

The minimalist shoes I switched to were Nike Free running shoes, advertised as “like running barefoot.” They are the new breed of running shoe, almost slipper-like with minimalist bottoms—the soles are lighter and heavily corrugated for more freedom of foot movement. That’s as close to barefoot as I want to go when tossing around 45-pound plates (not to mention the sharp edges on some calf blocks).

The reason those shoes are helping me build calf muscle may be because I have to grip the calf block with my toes, which creates extra pressure on the inner side of my feet. Trainees are usually advised to “come up on the big toe” for inner calf development. I noticed immediately that the new shoes allowed that to happen more naturally, which is no doubt why I now have more inner-calf flare.

Another reason the lighter-soled shoes build calves: minimal rebound effect at the key semistretched point, or X Spot, near the bottom of the stroke. End-of-set X Reps are much more intense and calf specific, as there’s no recoil from thick soles near the stretch point. The Nike Free shoes have slices all along the soles, so it’s very close to training barefoot—just like the Iron Guru suggested, er um demanded.
3D Quad and Hamstring Training
That is a pretty sound 3D POF quad program; however, his hamstring routine is lacking midrange work. Doesn’t that occur on regular squats? Not much. MRI studies suggest that to engage the hamstrings on squats, the feet must be out in front of the torso, which means you need a Smith machine or a hack machine. Let’s analyze the positions of each of those upper-leg muscle groups…

3D POF Thigh Strategy

Let’s start with the quads:

**Midrange:** Squatting or leg press movements take care of this position. Notice that there’s no full stretch or peak contraction of the target muscles during these exercises and that the hips (glutes) and hamstrings (to a minor degree) act in tandem with the quads to move the weight. That’s muscle synergy, the hallmark of a good midrange exercise.

**Stretch:** The bottom of a sissy, or limbo, squat—torso and thighs on the same plane, calves almost flush against the hamstrings—places the quads in a full stretch. (See illustration on the next page.)

**Contracted:** The top of a leg extension—torso and thighs at a right angle, lower legs extended and knees locked—peakcontracts the quads. Note that there’s resistance in the top position; however, this is the weakest spot on the exercise’s stroke.

Now for the hamstrings:

**Midrange:** The low-to-middle area of a feet-forward Smith-machine front squat works this position. If having the bar in front of your neck is uncomfortable, you can do them with the bar behind your neck—just be sure to keep your torso upright throughout the exercise.

**Stretch:** The bottom of a semi-stiff-legged deadlift, done with a flat back, puts the hamstrings in a full stretch. (The bar should not go lower than midshin level for lower-back protection.)

**Contracted:** The top of a leg curl—torso and thighs on the same plane, calves almost flush against the hamstrings and feet flexed toward the shins—provides peak contraction for the hams.
Note once again that there’s resistance in the top position, but that’s the weakest spot on the stroke of this exercise.

A good, growth-inducing POF thigh routine would look like the following. To promote maximum efficiency, the regimen also includes the lower back. You work your lower back after thighs and hamstrings to take advantage of the fact that you already worked that bodypart’s midrange and stretch positions with semi-stiff-legged deadlifts.

**POF Thigh & Lower-Back Routine**

**Quads**

**Midrange:** Squats, leg presses, front squats or Smith machine squats, 2 x 10-12
(No pause at the top or bottom; stop short of lockout on every rep to maintain tension on your quads.)

**Stretch:** Sissy squats, 2 x 10-12
(Don’t pause at the top or bottom, point of stretch, but instead use a quick twitch to reverse the movement; rise only two-thirds of the way up to keep tension on the quads.)

**Contracted:** Leg extensions, 1-2 x 10-12
(Do go to the top, or peak-contracted position, on each rep, but don’t pause; keep the lever-bar moving for maximum occlusion, or blood-flow blockage.)

**Hams**

**Midrange:** Feet-forward Smith-machine front or bar-behind-head squats, 2 x 10-12
(No pause at the top or bottom; stop short of lockout on every rep to maintain tension.)

**Stretch:** Semi-stiff-legged deadlifts, 2 x 10-12
(Don’t pause at the bottom, or point of stretch, but instead use a quick twitch when the bar reaches midshin level. Don’t go below that point, and pull up to just above the knees. Also, keep a slight bend in your knees, your back flat and the bar moving close to your legs, not out in front of your feet.)

**Contracted:** Lying or standing leg curls, 1-2 x 10-12
(Do go to the top, or peak-contracted position, on each rep, but don’t pause; keep the lever-bar moving for maximum occlusion, or blood-flow blockage.)

Limbo, or sissy, squats—torso and thighs remain on the same plane throughout the set for extreme quad stretch at the low point. Also, rise only two-thirds of the way up to keep tension on your quads.

Semi-stiff-legged deadlifts: stretch-position work for the hamstrings. If you are fairly flexible—and careful—you can go lower than what’s pictured, slightly below midshin.
Lower Back
**Contracted:** Hyperextensions or lower-back machine, 1-2 x 10-12
(Do go to the top, or peak-contracted position, on each rep, but don't pause; keep moving for maximum occlusion, or blood-flow blockage. Note: the top position is when your back is flat, not arched.)

That's about five sets for quads, five sets for hamstrings and one or two sets to finish off the lower back. It's a better program than Jonathan's original Size Surge routine because it includes midrange work for hamstrings. Does it work? Here are photos of Jonathan's quads and hams after using this revised 3D POF approach that incorporated X Reps.
5 3D Chest Training
Not a bad 3D POF program; however, we've found that bench presses on a decline or wide-grip dips are much better at developing the overall pectoralis major than flat-bench presses. Also, we like to prioritize the upper chest area, as it's more difficult to develop than the lower and middle regions for most trainees.

As for the stretch-and-contracted-position exercises, it's efficient to train two position with one exercise. Incline cable flyes are great for upper-pec stretch- and contracted-position work. Cable crossovers for lower chest, however, are easy to cheat on because of torso instability. We now prefer to use low cable flyes on a flat bench, pulling the handles from out to up and over the abdomen. Those minor tweaks have done great thing for Jonathan's chest, as you can see from the above photo.

3D POF Pec Pumper

To reiterate the 3D philosophy, POF chucks the shotgun method of bodypart training—working each muscle with an overabundance of exercises to “hit as many angles as possible”—and instead uses a more pragmatic approach to drive each bodypart to spectacular levels of development. So your first step in creating the ultimate pec program for you is to observe the muscle itself. As you saw with Jonathan's program above, the pectorals each have an upper and a lower segment—the pectoralis minor and pectoralis major, respectively. Technically, the pecs major muscle covers the entire chest area, and the pecs minor strand of muscle lies under the upper portions of the pecs major. For complete development, however, you must treat the upper and lower pecs as two separate entities. First the upper pecs, which we give priority to in most of our chest routines:

**Midrange:** Any incline pressing movement works the midrange position. The triceps and front delts help the upper pecs move the weight.

**Stretch:** The bottom of an incline flye puts the upper pecs into a complete stretch position.

**Contracted:** You reach peak contraction when your arms are extended and crossed over your upper chest with resistance in this position, as in the top of an incline cable flye.

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**Jonathan's 3D Size Surge Lower-Chest Routine**

- **Midrange:** Bench presses*, 2 x 7-9
- **Stretch and Contracted:** Cable crossovers, 1 x 7-9

**Jonathan's 3D Size Surge Upper-Chest Routine**

- **Midrange:** Incline dumbbell presses, 2 x 7-9
- **Stretch and Contracted:** Incline cable flyes, 1 x 7-9
Now the lower pecs:

**Midrange:** Any flat (less effective for most trainees) or decline pressing movement or wide-grip dip hits this position. The triceps and front delts help your pecs major move the resistance.

**Stretch:** The bottom of a decline flye—elbows back behind the torso, arms wide—completely stretches the lower pecs.

**Contracted:** You reach total peak contraction when your arms are extended, hands touching—or better for some trainees, arms crossed at midforearm—below your lower chest, as in a standard cable crossover (less effective for many) or low *cable* flye.

After reading through this analysis, you might be thinking, “Wait a minute. Six exercises? I thought this was going to be an efficient chest routine!” Fortunately, if you’re not specializing on your chest, one movement can takes care of two of the positions of flexion, as in Jonathan’s Size Surge program: Incline cable flyes work the upper pecs’ stretch and contracted positions, while flat or decline cable flyes hit the lower pecs’ stretch and contracted positions. That gives you a total of two exercises for the upper chest and two for the lower. Here’s an example of a simple, solid pec program that improves on Jonathan’s original routine:

### The 3D POF Pec Routine

**Upper chest**

*Midrange:* Incline barbell presses, incline dumbbell presses
  - or Smith machine incline presses, 2 x 10-12
  (No pause at the top or bottom and only move the bar up to just shy of lockout to maintain tension on your pecs throughout the set.)

*Stretch & Contracted:* Incline cable flyes, 1-2 x 10-12
  (No pause at the top or bottom; use a quick twitch at the stretch point to enhance fiber activation.)

If your upper chest is a weak point, you may want to treat incline cable flyes as a contracted-position movement and do one or two sets of dumbbell incline flyes before for stretch-position work.
Now for the middle/lower chest:

**Lower chest**

**Midrange:** Bench presses, dumbbell bench presses, Smith machine decline bench presses or wide-grip dips, 2 x 10-12
(No pause at the top or bottom and move the bar up to just shy of lockout to maintain tension on your pecs throughout the set.)

**Stretch & Contracted:** Decline or flat-bench cable flyes, 1-2 x 10-12
(No pause at the top or bottom; use a quick twitch at the stretch point to enhance fiber activation.)

If your lower/middle chest is a weak point, you may want to treat cable flyes as a contracted-position movement and do one or two sets of flat-bench dumbbell flyes before for stretch-position work.

Most bodybuilders should work upper chest first to give it priority over the more easily developed (for most trainees) lower chest. Note also that you can completely work your chest with only about six sets, as Jonathan did during his Size Surge program, a far cry from the 20 to 30 that many bodybuilders use. Remember, if you want maximum growth in minimum time, you have to hit each muscle in an intense, efficient manner and then move on so that you preserve your precious recovery ability for growth. Remember, use the shorter, two-exercise routines unless you have severe pec deficiencies.
6

3D

Back Training
Once again, a very solid routine; however, we’ve found that behind-the-neck pulldowns can be stressful on the shoulder joints and that standard pulldowns for the lats work that midback position effectively. You can skip the midrange position for midback or do some type of machine row or dumbbell row, as you’ll see when we get to the position descriptions.

**Back Analysis**

The upper back has many smaller muscles, but efficiency-minded bodybuilders will realize that they only have to train the larger masses—the lats and traps—hard and heavy, to fully develop the smaller muscles. That’s especially true if you make sure to train the large areas from their three positions of flexion. Using 3D POF enables you to hit every crevice of your back without wasted effort.

Let’s take the two major areas of the upper back, divide each into its three positions of flexion and identify the movements that work each position.

**Latissimus dorsi**

**Midrange:** Front chins or front pulldowns—with your upper arms pulling down from overhead and into your sides—work the lats’ midrange with help from the biceps and traps. Note that although there’s some stretch at the beginning and some contraction with resistance at the end of these movements, you achieve neither position completely, as you’ll see from the following descriptions.

**Stretch:** The bottom of a pullover—upper arms overhead with the elbows slightly below the plane of the torso—puts the lats in the total-stretch position. The resistance pulls your arms back, not out or up, as in a pulldown or chin.

**Contracted:** For you to achieve total peak contraction in your lats, your upper arms must be down, close to and behind your torso, as in the bottom of an undergrip pulldown to the lower chest, a stiff-arm pulldown or a bent-over undergrip row. Scapulae rotation, which you achieve with the aforementioned exercises, is important when you’re striving for complete lat contraction.

**Midback (midtrapezius)**

**Midrange:** As you saw in Jonathan's original Size Surge program, I used to
recommend behind-the-neck chins or behind-the-neck pulldowns for midrange midback work; however, pulldowns during the lat program do a good job of hitting the middle traps in that position, as well as the lats. Unless your midback needs specialization, skip this position—or you can do some type of machine row or bent-over row.

**Stretch:** The bottom of a close-grip cable row or one-arm bent-over dumbbell row—torso forward and bent at slightly less than 90 degrees to the thighs, arms extended, hands or hand moving to the centerline of the body—completely stretches the midback. The resistance pulls the arms and scapulae forward, not up, as in a pulldown.

**Contracted:** The top of a shoulder-width cable row or bent-over row—elbows back behind your torso and angled slightly up and away from your body and shoulder blades together. A more isolated version of the action is bent-arm bent-over laterals, which is a movement between a two-arm bent-over dumbbell row and a strict bent-over lateral raise.

Now, let’s construct a productive back attack that will push the body part to new levels of width and thickness with as little wasted effort as possible.

**Efficient Back Training**

The POF training strategy gives your upper back a thorough workout, but you should follow a couple of rules for best results:

• Work the weaker of the two back areas first. For example, if your midback is fairly well developed but your lats are lagging, work the lats first and the midback second. (That’s why Jonathan chose to work lats first; his midback is better.)

• Use a medium-grip—only slightly wider than shoulder width—on most exercises. That will give you better leverage and optimal target-muscle activation.

**The 3D POF Back Attack**

**Lats**

**Midrange:** Front pulldowns or chins, 2 x 10-12
(No pause at the top or bottom.)

**Stretch:** Barbell pullovers or dumbbell pullovers, 1-2 x 10-12
(At the bottom, or point of stretch, use a quick twitch to involve more muscle fibers; no pauses.)

**Contracted:** Undergrip pulldowns, undergrip bent-over rows
or stiff-arm pulldowns*, 1-2 x 10-12
(No pause at the top or bottom, and don’t lock
out your elbows.)

*A pullover machine will work both the stretch- and contracted positions, as
in Jonathan’s lat routine. You can substitute that one exercise for pullovers and
undergrip pulldowns, as illustrated in his routine, if you have one available.

**Midback**

*Midrange:* Trained during pulldowns or chins for lats

**Stretch:** Close-parallel-grip cable rows or one-arm dumbbell rows, 2 x 10-12
(No pause at the top or bottom and
use a quick twitch at the bottom for a more
powerful midback contraction.)

**Contracted:** Bent-arm bent-over laterals, 1-2 x 10-12
(No pause at the top or bottom.)

**Upper Traps**

**Stretch & Contracted:** Forward-lean dumbbell shrugs, 1 x 8-10
(No pause at the top or bottom of the movement.
Also, keep your torso leaning forward slightly and at
the bottom of the stroke allow the dumbbells to move
in front of your thighs for a trap stretch; as you shrug,
allow the dumbbells to move out to your sides.)

You train your upper traps, which tend to work somewhat independently of
the middle traps, at the end of your back routine because you’ve already hit their
midrange position with most of the other back exercises. Note, however, that you
should only do shrugs if you need upper-trap work, which refers to the area from
your shoulders to your neck. Most bodybuilders get plenty of indirect stimulation
in that area from other delt and back exercises. If you choose to do shrugs, the
dumbbell variety is the most efficient—if you have dumbbells heavy enough—be-
cause you can allow the ‘bells to come together at the bottom of the movement
to reach the stretch position and allow your hands to separate and move to your
sides as you shrug to reach the traps’ complete contracted position.

Keep in mind that this is an intermediate-advanced routine. At the top end
you do 11 sets, which is quite a bit of work, so unless you’re advanced, skip the
shrugs and stick to the lower set numbers for eight total sets. Also, to pare down
the volume even further, you may want to do one of the full lat routines, and then
follow with two sets of chest-supported dumbbell rows (pictured on the previous
page) as your single midback movement. It’s very efficient, as it hits the stretch
position if you allow the dumbbells to come together at the bottom, the con-
tracted position, if you pull your hands wide at the top, and it has the synergy of
a midrange move. Keep in mind that most of the lat exercises also train your mid-
back to a degree. If your midback is a weak point, however, you should use a 3D
POF routine that includes an exercise for each position.

If you’re starting to feel overwhelmed by all the bodypart positions and infor-
mation, don’t worry—I’m going to outline a full, updated 3D POF program in
Chapter 10, a revision of Jonathan’s Phase 2 program.
7

3D Shoulder Training
That’s an almost perfect 3D POF delt program, which explains why Jonathan’s delts were one of his most improved bodyparts during his 10-week Size Surge assault. Today we include an overhead pressing exercise at the end for front-delt work and rotator-cuff stability—but it’s a minor consideration (which is why we do it last).

Fortunately, when it comes to delts a little muscle goes a long way. All it takes is a small amount of added mass on each lateral, or side, head to boost a bodybuilder’s torso from mediocre to herculean. But because the medial-delt head is in such an important position, most bodybuilders overtrain it into a no-gain coma.

**Don’t Overtraining If You Want to Gain**

The lateral-deltoid head is a rather small muscle—even smaller than the biceps. You don’t want to bombard it with excessive work in a desperate attempt to create more width and roundness. You must make your delt routine as efficient and precise as possible—efficient in that it should contain the least amount of work necessary to stimulate maximum growth and precise in that it should primarily stress the key lateral heads. If you know anatomy, however, you may be wondering about the other two delt heads.

While it’s true that the deltoid is made up of three heads—anterior, or front; medial, or lateral; and posterior, or rear—it’s also true that the front and rear heads get so much work from other exercises that they rarely need direct stimulation. For example, any type of press, flye or curl works the front heads to a degree, while pulldowns, rows, bent-arm bent-over laterals and chins work the rear heads. Also, remember that no muscle is an island, especially when it’s in as close proximity to other muscles as the three delt heads are. That being the case, any lateral-head exercise—such as lateral raises—indirectly affects the other two heads.

As for any indirect stimulation of the lateral head from other exercises, it doesn’t get nearly as much and therefore must be blasted from three dimensions with sharpshooter precision if you want dramatic density and fullness.

**Precision Training With 3D POF**

You may have noticed that most bodybuilders’ delt training has about as much accuracy as a sawed-off shotgun on a bird-hunting expedition; more often than not it misses the mark completely, but when it does nail the small target, it disintegrates the meat beyond recognition. In order to hit all the angles, the average bodybuilder attempts to use every shoulder exercise in the book, which causes an overtrained, overdrained state that limits, rather than promotes, gains. With Jonathan’s Size Surge delt program in mind, let’s take the lateral deltoid and dissect its three positions.

**Midrange:** Overhead pressing movements used to be the recommended exercise here, but if you think about it, it’s really midrange work for the front delts, as I mentioned earlier. The medial head is only involved to a minor degree; how-
ever, you still need some overhead pressing for shoulder stabilization and balance. A better midrange exercise for the medial-delt head is dumbbell upright rows. With this exercise you get synergy from your biceps and traps.

**Stretch:** The bottom of a one-arm incline lateral raise or one-arm cable lateral—arm across the front of the torso—puts the lateral head in a stretched position.

**Contracted:** The top position of a lateral raise—upper arm out to the side and parallel to the floor—completely contracts the lateral head. Torso should remain in a slight forward lean throughout the exercise.

Once you understand these three positions, precise, efficient delt training is simply a matter of devising a routine that forces your shoulders into the growth zone at every workout without disintegrating your recovery ability. If you’re an intermediate-to-advanced bodybuilder, you’ll have the recovery ability to handle more sets than a beginner can, but you still can’t overdo it without suffering the overtraining consequences. Remember, the lateral head is a small muscle and doesn’t require all that much work to get it growing. Here’s an excellent delt routine that hits the 3D POF power points—it contains only one slight revision to Jonathan’s Size Surge delt program:
3D POF Delt Developer

**Midrange:** Dumbbell upright rows, 2 x 10-12
(No pause at the top or bottom.)

**Stretch:** Incline one-arm lateral raises
or one-arm cable lateral raises, 2 x 10-12
(At the bottom, or point of stretch, use a quick
twitch to reverse the movement—no bouncing.)

**Contracted:** Lateral raises
or one-arm leaning lateral raises, 1 x 10-12
(No pause at the top or bottom.)

**Front-delt midrange:** Behind-the-neck presses, dumbbell presses,
military presses or Arnold presses, 1-2 x 8-12
(No pause at the top or bottom, and
stop short of lockout on every rep.)

At the high end you do seven sets, which is probably more than enough work for the shoulders if you work at least to positive failure on each.

One other thing to consider when it comes to the most bang for your effort buck: Most shoulder exercise do not have continuous tension. That’s another reason the delts are so difficult to develop. You must strive for continuous tension, make an effort to keep the stress on the delts throughout every set. For example, on dumbbell upright rows, the resistance falls off at the bottom, arms-extended position. Stop a bit short of lockout to keep the delts engaged. The same goes for lateral raises—do only the top two-thirds of the stroke (yes, you’ll have to use less weight, but the development you get will be worth the ego hit). On the incline one-arm laterals, don’t allow your arm to move down to where resistance falls off your delts—once again, stop a little short so your delts remain engaged. And if you’re lucky enough to have access to a lateral-raise machine that keeps tension on your medial head from start to finish, use it!

If you’re interested in a pair of dense, devastating delts, give the POF approach a try. It will turn your shoulders into boulders in no time.
3D Arm Training
Once again, there's not much to add to Jonathan's original Size Surge arm routine. His arm growth took off like a rocket because of its efficiency and precision of the above program, but there is one revision that will make it better—a decline on the triceps extensions. Jonathan has used variations of the above routine since his original Size Surge assault, with a decline on the triceps midrange exercise, and today his arms measure over 19 inches (they were just at 18 after the Size Surge experiment, and that was in a very bulked up—fatter—state). That says a lot for the brief, intense 3D POF approach.

The Arms Race

Because great guns are universally admired, getting them is usually the neophyte bodybuilder's first goal. All other bodyparts become secondary. In the beginning arms get an abundance of high heat, while other bodyparts are put on the back burner. That can be a somewhat dangerous circumstance to the aspiring bodybuilder because the overwork can bring slow, stunted growth. Sure, the arms will grow—to a point—but hypertrophy eventually stops and can even begin to regress after too many marathon efforts.

Remember that the forearms, biceps and triceps get loads of secondary work. Triceps get it from pressing, biceps get it from pulling—as in rows and chins—and forearms get it from hanging and gripping. When you add set after set of direct arm work to your routine, you eventually run into diminishing returns. The key to awesome arms is simple. Train them intensely, efficiently and not too frequently—while still covering all the angles.

Arm Yourself With 3D POF

Logic will tell you that there's no need to do an endless number of arm movements in order to “hit all the angles.” It's simply a waste of time and precious energy. It's much more logical to figure out how each muscle or muscle group works, attack each angle with one or two high-intensity sets and then move on to the next bodypart. If you do that on a consistent basis, total development will be yours in much less time.
As usual, we’ll start with a bodypart analysis. Here are the major arm muscles and how their specific positions of flexion break down:

**Triceps Midrange:** You achieve this position when your arm is straight out in front of you, close to perpendicular to your torso, as in lying triceps extensions. When you do that exercise correctly, with some upper-arm movement, your lats become synergists, assisting your triceps somewhat in moving the resistance. However, MRI studies suggest that doing them on a decline is best for maximum triceps activation. Decline close-grip bench presses is actually a more pure midrange exercise for the triceps because there’s more synergy. Parallel-bar dips also work well as a triceps midrange exercise—keep your arms in close to your torso with a slight forward lean.

**Stretch:** Maximum triceps stretch occurs when your upper arm is next to the side of your head and your lower arm is bent back behind it, with your knuckles almost touching your shoulder, as in the bottom of a standing triceps extension.

**Contracted:** You reach total triceps contraction when your arm is down next to your side and slightly back behind your body with your elbow locked—with the muscle fully flexed. Triceps kickbacks or one-arm pushdowns work this position.

Jonathan got his arms up to 19 1/4 inches with a combination of 3D POF methods and X Rep training—no drugs. Most of his arm workouts were five sets per muscle.
Biceps

**Midrange:** You hit this position when your upper arm is slightly in front of your torso, as in standing barbell curls or preacher curls. The front delts help the biceps in both of these exercises, more so in standing barbell curls, as your arms travel slightly forward while you curl the bar up. (If you want to start with an exercise that has more synergy, try undergrip pulldowns or undergrip cable rows; see *The Ultimate Mass Workout* for more.) MRI studies also indicate that a grip that's slightly narrower than shoulder width hits both heads of the biceps best.

**Stretch:** You get complete biceps stretch when your upper arm is straight down and back behind the plane of your torso, palms facing forward, as in the bottom of a low-incline dumbbell curl.

**Contracted:** Your biceps is fully contracted when your upper arm is next to your head, your forearm flush against your upper arm, with your palm down and your little finger twisting outward. This position is hard to simulate with any conventional barbell exercise, although you could conceivably do a one-arm behind-the-head cable curl. Since that would be somewhat awkward to perform, use nonsupport concentration curls, an Arnold favorite, to get you as close as possible to the contracted position. Nautilus used to make a machine that had you curl the resistance behind your head, but those are hard to find these days.

Forearms (flexors: underside)

**Midrange:** You train this position with all the gripping you do and the movement that occurs when you perform other exercises, specifically any type of curl, so there's no need to target it directly in your forearm program.

**Stretch:** You get complete forearm flexor stretch in the bottom position of a palms-up wrist curl when you're sitting on a bench that's angled slightly upward, your forearms are resting on the bench, and the bend in your elbow is greater than 90 degrees.

**Contracted:** You can completely contract your forearm flexors in the top position of a palms-up wrist curl when you're sitting on a bench that's angled slightly downward and the bend in your elbow is less than 90 degrees.

Note: The difference between the stretch and contracted positions are so subtle that using a flat bench for your wrist curls will cover both. There's really no need to shift the angle of the bench.

Forearms (extensors: top of forearm)

**Midrange:** You work this position with reverse curls. The biceps and brachialis muscles (under the biceps) help pull the forearm extensors through the midrange position.

**Stretch:** You completely stretch your forearm extensors in the bottom position of a reverse wrist curl when you're sitting on a bench that's angled slightly upward, your forearms are resting on the bench, and the bend in your elbow is greater than 90 degrees.
**Contracted:** You achieve complete contraction in your forearm extensors in the top position of a reverse wrist curl when you're sitting on a bench that's angled slightly downward, your forearms are resting on the bench, and the bend in your elbow is less than 90 degrees to allow for better contraction.

Note: Once again, the difference between the stretch and contracted positions are so subtle that using a flat bench for your wrist curls will cover both. There's really no need to shift the angle of the bench.

### 3D POF Arm Routine

**Triceps**

**Midrange:** Decline triceps extensions, dips,
- close-grip bench presses (decline is best) or
- elbows-flared pushdowns, 2 x 10-12
(No pause at the top or bottom; stop short of lockout.)

**Stretch:** Overhead extensions or cable
- pushouts (from a lunging position), 1-2 x 10-12
(At the bottom, or point of stretch, use a quick twitch to reverse the movement; stop short of lockout.)

**Contracted:** Dumbbell kickbacks, one-arm cable kickbacks
- or one-arm triceps pushdowns (upper arm behind torso), 1-2 x 10-12
(No pause at the top or bottom.)

**Biceps**

**Midrange:** Barbell curls, seated dumbbell curls,
- preacher curls, undergrip pulldowns or
- undergrip cable rows, 2 x 10-12
(No pause at the top or bottom; stop short of lockout.)

**Stretch:** Incline dumbbell curls (upper arm behind torso), 1-2 x 10-12
(At the bottom, or point of stretch, use a quick twitch to reverse the movement.)

**Contracted:** One-arm concentration curls,
- barbell concentration curls, double-biceps
- cable curls or spider curls (on the perpendicular side of a preacher bench), 1-2 x 10-12
(No pause at the top or bottom.)

**Forearm flexors (underside)**

**Midrange:**
Worked during biceps curls.

**Stretch and Contracted:** Wrist curls (on flat bench), 2 x 15-20
(At the bottom, or point of stretch, instead use a quick twitch to reverse the movement; no pauses.)

**Forearm extensors (top)**

**Midrange:**
Reverse curls or hammer curls, 1 x 10-12
(No pause at the top or bottom.)
**Stretch and Contracted:** Reverse wrist curls (on flat bench), 2 x 15-20
(At the bottom, or point of stretch, instead use a quick twitch to reverse the movement.)

Here are a few pointers to help you get the most out of 3D POF arm training:

- **Train triceps before biceps.** If you do biceps first, the pumped muscles will act as a forearm buffer and prevent a full range of motion on some triceps movements. For example, if you do overhead triceps extensions with pumped biceps, your range of motion will be somewhat limited in the low, or stretch, position.
- **Train forearms last.** You don’t want to fatigue your gripping muscles and inhibit your performance on other exercises.
- **Stay in control.** No jerking the weight. About a 1.5-seconds-up and 1.5-seconds-down movement is a good rule of thumb. This speed will help you feel the muscle working during each rep and prevent you from using momentum, which could cause injury, and, if you do 10 reps, you reach 30 seconds of tension time which is optimal for the best hypertrophic response (more on that in an upcoming chapter).
- **Use higher reps for forearms.** The lower-arm muscles are a lot like the calves in that they are endurance oriented. Even the fast-twitch fibers have a higher endurance component, and that requires slightly longer tension times to get the best size-building results. Around 15 reps is best for forearm exercises, and the forearms respond exceptionally well to drop sets and supersets because of that high-endurance capability.

As you saw in chapter 1, one of Arnold’s favorite biceps routines was standing dumbbell curls, incline dumbbell curls, and nonsupport concentration curls. That’s the 3D POF protocol in action. The standing dumbbell curls hit the biceps’ midrange position, the inclines worked the stretch position and the nonsupport concentration curls got the contracted position. And Arnold had a pair of the greatest biceps the world has ever seen.

As for Jonathan’s Size Surge routine, he didn’t do forearm work, and I suggest you too skip it if you follow the 10-Week program (there isn’t any forearm work in the revised routine in Chapter 10). You’ll preserve recovery ability, and besides, your forearms get a lot of indirect work during gripping on other exercises.
9

3D

Abdominal Training
Another solid bodypart program. The only real problem with it is that the reps are somewhat low considering the abs propensity for endurance. Like the forearms and calves the midsection muscles usually respond best to slightly higher reps and/or supersets, tri-sets, drop sets and other extended-set techniques.

Look at that program again. That's a very quick workout compared to what you see most people doing. Check out any gym and you'll see inexperienced trainees as well as advanced bodybuilders doing hundreds of reps on every midsection exercise known to man with absolutely no method to their madness.

Instead of saddling yourself with a regimen that has you repping till the cows come home, consider the following four facts and then use logic and the 3D Positions-of-Flexion approach to help you overcome your abdominal obstacles:

1) **Muscle makeup.** The abdominal muscles are just that—muscles. Each is made up of the same types of fibers as your biceps, quads and back; however, as I mentioned, many of the fibers in the abs are more endurance oriented and require slightly higher reps to reach full development. The main abdominal muscle that bodybuilders should be concerned with, the rectus abdominis, is not a bunch of knotted muscle masses, as it appears to be, but rather a sheet-type muscle that runs from the bottom of your rib cage and attaches to your pelvis. The ripples are actually caused by tendons running horizontally and vertically.

2) **Hip flexor function.** The hip flexors come into play on many ab exercises, such as kneeups, which makes them inferior ab isolators like the crunch. The key word here is “isolators.” As you’ll soon see, the hip flexors are important contributors, or synergists, when you exercise the midrange position of the rectus abdominis.

3) **Upper and lower separation.** Studies indicate that the upper rectus abdominis can work somewhat independently of the lower part of the muscle, as it does when you perform crunches. But when you work the lower portion, your upper rectus always comes into play, as in incline kneeups. Therefore, you should always work the lower area first, which brings both upper and lower sections into play. If you isolate the upper part first, you fatigue that area and make your lower-ab work much less effective—in much the same way that working forearms before biceps can limit your biceps efforts. For example, if you do crunches first and then kneeups, your upper rectus will be so fatigued from the crunches that it’ll cause you to fail on the kneeups long before you fatigue your lower abs—it’s one reason so many trainees lack lower-ab delineation: They work lower abs last or do only crunches in their ab program.

4) **Efficiency of effort.** You must work your upper and lower abs from the three positions of flexion to get rapid, complete development and delineation.

Because research suggests that the rectus abdominis can function almost as
two separate muscle groups—as explained in item 3 above—we break down the muscle as follows to determine its positions of flexion:

**Rectus abdominis (as a whole)**

**Midrange:** The midrange movement for the rectus abdominis should involve the hip flexors to a degree. Remember, you’re not trying to isolate the target muscle, as a midrange exercise is a compound movement that allows surrounding muscles to help the target muscle contract—squats for quads for example. For abs the hip flexors are the synergists. You work the rectus abdominis through its midrange position with incline knee-ups.

**Stretch:** The entire rectus abdominis is in the stretch position when your torso is slightly below the plane of your thighs and buttocks, as in the bottom position of an Ab Bench crunch (left) with your lower back arched (the Ab Bench has a rounded back pad).

**Lower rectus abdominis**

**Contracted:** You achieve this position when your upper thighs are almost flush against your abdomen and your hips are rolled upward, as in the finish position of the incline kneeup (above right, bottom photo). Note that incline kneeups work the entire rectus abdominis through its midrange position and the lower rectus in its contracted position.
Upper rectus abdominis

**Contracted:** You hit this position when your upper torso is curled forward toward your pelvis with your hips and lower back remaining on the same plane, as in the standard crunch or finish position of an Ab Bench crunch.

Here's a killer 3D POF ab program with a few exercise choices:

**The 3D POF Phenomenal Abdominal Routine**

**Total Midrange & Lower Contracted:** Incline kneeups, 2 x 10-15
(No pause at the top or bottom.)

**Total Stretch/Upper Contracted:** Full-range crunches,
   Ab Bench crunch pulls or cable crunches
   with low-back support, 2 x 10-15
   (At the bottom, or point of stretch, use a quick
twitch for a stronger ab contraction. Also, only go
slightly below parallel, as it can be dangerous to
stretch the abdominal wall if you're prone to
hernias.)

Even though you consider the upper and lower areas of the rectus abdominis separately, you can still work all three positions with only two movements. If you have access to an Ab Bench, which has a rounded back pad, you can train your rectus abdominis more effectively, from complete stretch to total contraction with one movement and with progressive resistance on a comfortable machine. Start with two sets of incline kneeups—be sure to roll your hips up toward your torso at the top of each rep for lower-ab contraction—before your Ab Bench work and you have one of the most efficient ab routines around that can help you achieve the epitome of rippling ruggedness.

Note: For more comprehensive ab analysis—such as why hanging kneeups are an inferior ab exercise—and more quick-hit ab programs that include occlusion tips and X Reps, see the *X-traordinary Abs* e-book, available at [www.X-traordinaryAbs.com](http://www.X-traordinaryAbs.com).
3D POF Overview
You’ve seen how to apply 3D POF to each muscle group. Here’s a quick summary—the POF 3D Muscle Matrix. You may want to print it out and take it with you to the gym as a quick review. It’s followed by an updated version of Phase 2 of Jonathan’s Size Surge routine.

### POF 3D Muscle Matrix

**Position Exercises for Legs, Chest, Triceps**

#### QUADRICEPS
- **Midrange:** Squats, hack squats, Smith machine squats, leg presses, lunges
- **Stretch:** Sissy squats
- **Contracted:** Leg extensions

#### HAMSTRINGS
- **Midrange:** Feet-forward Smith machine squats or front squats or hack squats
- **Stretch:** Stiff-legged deadlifts, flat-back hyperextensions; seated leg curls
- **Contracted:** Leg curls; one-leg leg curls

#### CALVES
- **Midrange:** Cardio work or knee-flexion leg press calf raises
- **Stretch:** Donkey calf raises, leg press calf raises
- **Contracted:** Standing calf raises, one-leg calf raises, hack machine calf raises

#### CHEST
- **Upper Midrange:** Incline presses, incline dumbbell presses, machine incline presses
- **Upper Stretch:** Incline flyes
- **Upper Contracted:** Incline cable flyes, arms-high pec deck flyes, hands-high machine flyes, high cable flyes

- **Lower Midrange:** Decline presses, wide-grip dips, bench presses
- **Lower Stretch:** Decline flyes, flat-bench flyes
- **Lower Contracted:** Low cable flyes, cable crossovers, pec deck flyes, machine flyes

#### TRICEPS
- **Midrange:** Elbows-flared pushdowns, decline close-grip bench presses, decline extensions, dips (arms close to torso)
- **Stretch:** Overhead extensions, high-cable rope extensions (in a forward-lunge position)
- **Contracted:** Pushdowns (one-arm version is best), dumbbell kickbacks
POF 3D Muscle Matrix
Position Exercises for Back, Delts, Biceps, Abs

**LATS**

**Midrange:** V-handle pulldowns or chins, chinups, pulldowns to front  
**Stretch:** Dumbbell pullovers, machine pullovers  
**Contracted:** Undergrip pulldowns, undergrip rows, machine pullovers, stiff-arm pulldowns

**MIDBACK**

**Midrange:** Covered with lat midrange work  
**Stretch:** One-arm dumbbell rows, close-grip V-handle cable rows  
**Contracted:** Bent-arm bent-over laterals, shoulder-width-grip cable rows

**TRAPS**

**Midrange:** Close-grip upright rows  
**Stretch & Contracted:** Forward-lean dumbbell shrugs

**DELTIODS**

**Midrange:** Wide-grip dumbbell upright rows, rack pulls, overhead presses (front head/shoulder stabilizers)  
**Stretch:** Incline one-arm lateral raises, one-arm cable laterals  
**Contracted:** Forward-lean lateral raises, machine lateral raises

**BICEPS**

**Midrange:** Undergrip pulldowns or chins, barbell or dumbbell curls, preacher curls, cable curls, undergrip cable rows  
**Stretch:** Incline dumbbell curls  
**Contracted:** Concentration curls, double-biceps cable curls, spider curls

**ABDOMINALS**

**Midrange & Lower Contracted:** Incline kneeups  
**Abdominals Stretch & Upper Contracted:** Ab Bench crunches, full-range crunches
3D POF Every-Other-Day Phase 2 Size Surge Mass Program

Workout 1: Quadriceps, Hamstrings, Calves, Chest, Triceps

Quadriceps Midrange
   Squats*, 2 x 10-12

Quadriceps Stretch
   Sissy squats, 1 x 10-12

Quadriceps Contracted
   Leg extensions*, 1 x 10-12

Quadriceps Midrange
   Feet-forward hack squats, 1 x 10-12

Hamstrings Midrange & Stretch
   Semi-stiff-legged deadlifts*, 2 x 10-12

Hamstrings Contracted
   Leg curls*, 1 x 10-12

Calves Midrange
   Knee-flexion leg press calf raises, 2 x 15-20

Calves Stretch
   Donkey calf raises*, 1 x 15-20

Calves Contracted
   Standing calf raises, 1 x 15-20

Upper Chest Midrange
   Incline barbell presses*, 2 x 10-12

Upper Chest Stretch & Contracted
   High or incline cable flyes, 1 x 10-12

Lower Chest Midrange
   Decline presses
   or wide-grip dips*, 2 x 10-12

Lower Chest Stretch & Contracted
   Low or decline cable flyes, 1 x 10-12

Triceps Midrange
   Dips* (arms in close), 2 x 10-12

Triceps Stretch
   Overhead extensions, 1 x 10-12

Triceps Contracted
   Dumbbell kickbacks, 1 x 10-12

*Do two warmup sets with 50 and 80 percent of your work weight for 10 and eight reps, respectively, prior to your work sets. (See Chapter 12.)
3D POF Every-Other-Day Phase 2 Size Surge Mass Program

Workout 2: Back, Deltoids, Biceps, Abdominals

Lats Midrange
    Chinups
    or pulldowns to front*, 2 x 10-12

Lats Stretch
    Dumbbell pullovers*, 1 x 10-12

Lats Contracted
    Undergrip pulldowns, 1 x 10-12

Midback Midrange
    Covered with lat midrange work

Midback Stretch
    One-arm dumbbell rows, 2 x 10-12

Midback Contracted
    Shoulder-width-grip cable rows, 1 x 10-12

Deltoids Midrange
    Dumbbell upright rows*, 2 x 10-12

Deltoids Stretch
    Incline one-arm lateral raises, 1 x 10-12

Deltoids Contracted
    Forward-lean lateral raises, 1 x 10-12

Deltbs Front-Head Midrange
    Barbell or dumbbell presses*, 1 x 10-12

Biceps Midrange
    Close-grip cable curls*, 2 x 10-12

Biceps Stretch
    Incline dumbbell curls, 1 x 10-12

Biceps Contracted
    Concentration curls, 1 x 10-12

Abdominals Midrange & Lower Contracted
    Incline kneeups, 1 x 12-15

Abdominals Stretch & Upper Contracted
    Full-range crunches
    or Ab Bench crunches, 1 x 10-12

*Do two warmup sets with 50 and 80 percent of your work weight for 10 and eight reps, respectively, prior to your work sets. (See Chapter 12.)
3D Training Tips

1) Train on nonconsecutive days. For example, Monday, Wednesday and Friday. If you can train on weekends, follow with Sunday, Tuesday, Thursday, Saturday. If you cannot train on weekends, stick to the Monday-Wednesday-Friday, schedule, picking up with the next workout in the sequence the following Monday.

2) Do one to two warmup sets with 50 percent of your work-set weight on the first and 80 percent on the second on the exercises that are marked with an asterisk (*). Concentrate and try to get in touch with the target muscle with slow, albeit light, movements. (There’s a specific warmup sequence in Chapter 12.)

3) Stop a few reps short of failure during week 1 of this phase. After that, push your work sets to positive failure—until you can’t do another rep with good form.

4) The ideal rep speed is about 1.5 seconds up and 1.5 seconds down; always keep your form strict—no jerking or heaving.

5) Rest 2 1/2 to three minutes between sets of midrange exercises and one to 1 1/2 minutes between sets of contracted- and stretch-position exercises.

6) When you can get the higher number listed in the rep range of each exercise (usually 12), increase the weight enough at the next workout to bring your reps down to the lower number. As you’ll see in the next chapter, you want to keep your reps around nine or 10 on most exercises in order to maintain at least 30 seconds of tension time on the target muscle (that’s another revision to original POF protocol).

7) Use a phase-training approach—four to six weeks of all-out training alternated with one week of moderate-intensity work, stopping all sets one to two reps short of failure during that week. (That’s the exact approach Jonathan followed during his Size Surge mass assault: Phase 1 basic program: first week medium intensity, next four weeks all out; Phase 2 3D POF program: first week medium intensity, next four weeks all out.)

8) Could you make gains on only one set per exercise? Possibly, especially considering you are working each muscle from it’s three positions of flexion; however, midrange exercises are the big mass builders, so it’s best to do two sets on those. Also, there are ways to make a set two to five times more powerful, such as by adding X Reps. There will be more info on that technique later in this e-book.

9) Cardio, or aerobics, is good for your heart and also excellent midrange work for your calves. You can do cardio on your off days, slow jog or biking, or on upper-body days (Workout 2), but not on leg day (Workout 1) or the rest day after legs. Anywhere from 15 minutes to 45 minutes is acceptable. Cardio on leg day or the day after can severely derail recovery in your upper-leg muscles.

I thought about ending this e-book here. You’ve got Jonathan’s solid Phase 1 Size Surge routine in Chapter 2 and the revised Phase 2 routine in this chapter. And you’ve got a firm grasp of 3D POF. But I have new information that can make those programs even more powerful. Could that info, when applied to those routines, supercharge them and help you build even more mass? How about 30 pounds of muscle in 10 weeks? It could happen. Read on…
3D Muscle Fiber Analysis
With so many opinions and theories floating around, it's tough to separate muscle-fiber fact from fiction. For example, it was generally accepted that the fast-twitch type 2Bs were best for growth. They are supposedly pure anaerobic fibers. New information seems to say otherwise, however, pointing to the type 2As—the fibers that are fast-twitch, or anaerobic, but also have an endurance component. That gives you a double-layered size effect—if you train them correctly. Here's a quote from *Designing Resistance Training Programs* by Steven J. Fleck, Ph.D., and William J. Kraemer, Ph.D., to clear up some of the confusion on that point:

“Several subtypes of type 2 fibers have been discovered. Type 2A fibers possess good aerobic and anaerobic characteristics, whereas type 2B fibers possess good anaerobic characteristics but poor aerobic characteristics.”

Fleck and Kraemer take the subject a little further, however:

“It now appears that the type 2B fibers may in fact be just a pool of unused fibers (with low oxidative ability) that on recruitment start a transformation process to the type 2A fiber type. Dramatic reductions in type 2B fibers occur with heavy resistance training.”

Here's how they depict that transformation process:

2Bs to 2aBs to 2ABs to 2Abs to 2As

Interesting—and it explains a lot of what bodybuilders experience by trial and error. For example, low reps don't build a lot of muscle for most trainees. Why? Well, fiber-transformation research suggests that 2As are king. With low-rep training, all of those 2As don't develop to their full capacity because they aren't being stressed enough from an endurance standpoint. They only get anaerobic stress. Critical excess development from endurance-oriented stress doesn't occur unless you keep tension time, the length of a set, up around 30 seconds (you do want that excess development, don't you?).

In other words, with lower reps you're only getting half the 2As' growth potential—the anaerobic part—not to mention that low reps tend to stress the tendons and ligaments more and also cause the nervous system to crap out earlier than medium-rep-range sets.

The 2As have both endurance and anaerobic capabilities, so it makes sense that they have the most potential for growth—you can stress both facets of the muscle cell for a double-layered size effect. Does that mean low reps don't build
muscle? No, they will build muscle, but the growth will be limited till the endurance capacities of the fast-twitch fibers are developed.

So on most sets you should strive for 10 reps, to get a tension time of about 30 seconds—if it's maximum muscle size you're after. That's assuming an average rep speed of three seconds—1.5 up and 1.5 down. A half minute of tension will trigger the size principle of fiber recruitment—low-threshold motor units recruited first, followed by the mediums, followed by the highs. That will train many fiber types, but, more important, the fast-twitchers will be forced to rely on some aerobic capacity. And therein lies one of the big keys to more size.

It also explains why X Reps—end-of-set partials at the max-force point on the stroke—are so effective; for example, eight-inch partials near the bottom of an incline press. When you reach exhaustion on a set of, say, nine reps, and you extend the set with X Reps, you can activate more fast-twitch 2As, build more endurance capacity in the ones that are already firing and, therefore, make the set even more effective—two to four times more powerful at accelerating a mass increase (more on X Reps in Chapter 13).

So what about rep ranges of more than 15? For most muscles a tension time that long causes too much accumulation of fatigue products, which derails high-threshold, fast-twitch recruitment early. (A few muscles, like calves, appear to be exceptions in most people because they have adapted to such high-endurance demands over time.) That would explain why trainees who train exclusively with high reps tend to have a more stringy appearance—they aren't getting at enough fast-twitch 2As to stimulate appreciable size increases, and they lean more toward aerobically conditioned muscle. Longer rep ranges don't stress the anaerobic capacity of the 2As, plus, because of fatigue products, the muscle craps out early, before the high-threshold 2As get in on the action. You just don't get enough fast-twitch stimulation or involvement.

So low reps—six and below—don't stress the fast-twitch fibers much aerobically, and high reps cause the muscle to flake out early without enough fast-twitch involvement. Medium-rep sets of about nine to 15 appear to be best for bodybuilding, depending on rep cadence.

But here's another question to ponder: Can you get the same rate of development with low-rep sets if you use more volume? It would make sense that the more sets you do, the more the target muscle would need to kick in some endurance capacity—especially if you reduce rest times between sets. It may be hit and miss, however, in that lots of low-rep sets stress the endurance capacity somewhat but not enough to max out that facet of growth in the 2As. And, anyway, if you do a lot of heavy sets, you run a much higher risk of overtraining and being in the gym for hours. (Not many trainees have time for that; I know I don't.)

That's why for drug-free bodybuilders it's best to do an average of two sets of nine-to-12 reps per multijoint exercise done in continuous-tension—that is, non-lock—style with at least one of those sets extended with X Reps. And after you've been doing straight sets for a number of months, as listed in the 3D POF Every-Other-Day Revised Size Surge program in the last chapter, you can begin adding other extended-set techniques, such as drop sets (there are more advanced ones as well, such as X Fade and Double-X Overload, which are outlined in Beyond X-Rep Muscle Building). Drop sets are best used on stretch- and contracted-position exercises, unless you're only using a midrange movement for a particular bodypart, as in the Basic Ultimate Mass Workouts in the UMWe-book.

For example, if you're only using incline presses for chest, do two sets. After two progressively heavier warmup sets, your first set should have you hit exhaustion at about rep 10, then you should lower the bar to a few inches above your chest and pulse up and down, moving the bar from that point to just below the midpoint
of the stroke. Two to four of those X Reps will help you engage and develop more fast-twitch fibers. On your second set of inclines, use a weight that allows you seven or eight reps (the same weight you used on set one will probably be perfect for most trainees). When you hit exhaustion, reduce the weight and immediately do five or six more reps. That type of drop set will involve the anaerobic facets of the 2As. Drop sets contain an endurance component because you work two sets back to back, so 2As can get their endurance-growth requirement as well as anaerobic stress—very efficient! Double drops with lower rep ranges can also be beneficial—six reps, reduce the poundage, five reps, reduce the poundage, three or four reps. Add X Reps into that mix, and you really have a potent mass-building sequence—if you can stand the pain. However, double drops are for more advanced trainees. You have to build up to that insanity, er um, intensity. If you don’t like the idea of changing weights, you can use multi-rep rest/pause techniques, such as ROB and DC training, on that second set (more in Chapter 14).

Two sets done with those parameters—a straight set with X Reps and a second as drop set—appear to cover all of the facets of muscle growth and hit a variety of fiber types. That’s the bare-bones minimum for bodybuilders who have to cope with a time crunch (30-minute mass-building workouts are possible). So you can make good gains using only the midrange exercises from POF protocol.

If you have the time, however, you will achieve much better mass gains if you add either a stretch-position or a contracted-position exercise or both for each bodypart. In that case, you can do a couple of straight sets on your multijoint exercise, one with X Reps, and save the drop-set sequence for your isolation exercise instead.

As you’ve seen so far in this book, the more-isolated exercises that have continuous tension and/or full stretch are very special and can enhance muscle growth—especially if you use drop sets and X Reps—but they are in a sense icing on the size-building cake. Use them whenever you can. Remember, one research study showed that stretch overload increased the wing muscle of a chicken by more than 300 percent in one month. Stretch-position exercises appear to be very effective at building mass, if they are used correctly. They are also tied to anabolic hormone release in the muscle, which can speed growth significantly as well.

What about contracted-position exercises? Well, they are best for continuous tension, which produces occlusion, or blood-flow blockage. Exercises such as leg extensions for the thighs and cable crossovers for the chest never allow the target muscle to rest. The muscle is forced to keep working, which forces it to fire without any blood flow. That occlusion has been shown in research studies to increase both size and strength. And using stretch- and contracted-position exercises can also force more muscle-fiber recruitment, as explained in Chapter 1.

So while midrange exercises hit the most muscle mass, or the most muscle fibers, stretch- and contracted-position exercises can help attack other facets of growth and allow you to reach more fibers. How many more? That depends on your intensity. Any way you look at it, training a muscle with a 3D POF approach will help you achieve extreme muscle size as quickly as possible, especially if you use that 3D protocol to attack the 2A muscle fibers that have both anaerobic and aerobic capacity.

Oh, by the way, another interesting side effect of building the type 2As—with longer tension times, X Reps and drop sets—is that with endurance stress you build the mitochondria of the muscle cells, the energy structures that burn body-fat for fuel. Perhaps that’s why bodybuilders in the ’50s and ’60s incorporated higher reps and supersets into their programs when they were attempting to increase muscle definition. Interesting. Focusing on both layers of the 2As can get you bigger and leaner. Now we’re talking!
12

3D

Warmup:

Prelude to Mass
So far you’ve read a lot of the reasons 3D POF is so effective at increasing muscle growth—everything from why each specific position is so powerful to muscle fiber activation to hypertrophy and possible hyperplasia effects. However, I have to rewind and talk about something that can supercharge your work sets into superior size and strength stimulators, or, if done incorrectly, mediocre moves with only small get-bigger-trigger potential: warmup sets.

Don’t groan and say, “But I do a few light sets before I get into my heavy work.” It’s much more than that—specific details that make it much more powerful. In fact, it’s usually the small details, like an effective warmup sequence, that add up to much bigger results—even something as seemingly insignificant as a proper warmup can be the difference between anabolic acceleration and stagnation. (Lack of effective warmup is one of the biggest reasons abbreviated muscle-building routines usually fail to produce big gains.)

For example, in earlier chapters I’ve discussed occlusion, or blocking blood flow to a muscle, and how scientists found that it can jack up strength significantly. In one study, researchers placed a blood-pressure cuff on subjects’ upper arms for two minutes. The cuff was then removed and the subjects did wrist curls. Results: Those who had their blood flow impaired prior to exercise showed a 20 percent strength increase over the subjects who didn’t use the blood-pressure cuff. Yes, 20 percent! (There have also been amazing muscle-size increases from occlusion, as you saw in a previous chapter.)

That indicates significantly better fiber recruitment. Along the same lines, studies on warming up muscles found that a number of lighter sets prior to heavy work can help the target muscle contract much better than without those preliminary sets—about 20 percent better, in fact. Hmm, there’s that 20 percent figure again.

So could the occlusion in the first study merely be acting as a warmup? Absolutely! After all, a warmup is simply a means of priming the pump—pushing blood into the muscle so it will perform to the best of its ability on the heavy sets. If you block blood flow instead of (or in addition to) doing some lighter full-range reps and sets, you end up with a warm, saturated, ready-to-fire muscle. Either way you get a rush of blood to the bodypart immediately after, which translates into better fiber activation and more size stimulation on your work sets.

Now, the question becomes, How can you use that information to set the stage for the most grow power from your work sets? (Keep in mind that you want to max out Partial reps on your warmup sets produce occlusion, or blood-flow blockage, which can enhance fiber activation on your work sets. For squats you go down to just below the point at which your thighs are parallel to the floor, then come up only two-thirds of the way to keep tension on your quads.)
hypertrophic stimulation with the fewest work sets necessary so you don’t drain your recovery system with too much volume.)

I usually recommend that for big multijoint exercises like squats and bench presses you should do two warmup sets. The first should be about 60 percent of your first work-set weight, and the second should be with about 80 percent. But there’s more to it than percentages. I’ve seen bodybuilders in the gym jerk through their warmups, wasting lots of time jabbering and not paying attention. Trust me, they are severely limiting their gains and creating the need to either do more warmup sets, more work sets or extensive rehab work once they get injured.

If you follow a few simple details on your warmup sets, two is all you need on multijoint exercises to stimulate more muscle growth (how about 20 percent more?). Here’s how to make it happen...

**Warmup set 1:** Take 60 percent of your work-set weight and do 10 reps—five full-range reps and five partials. Go from full stretch to complete lockout on the first five, to lube your joints, then do the second five only through the bottom two-thirds of the stroke, without locking out. That will prime tendons, ligaments and joints, and the last occlusion reps will get the blood pumping (remember, partials produce occlusion by keeping tension on the target muscle). Move a bit more slowly than on a work set—about two seconds up and two seconds down.

**Warmup set 2:** Up the poundage to 80 percent of your work-set weight. This time do four full-range reps followed by four nonlock partials for occlusion. (Individual strength may vary; if four plus four feels too taxing, try three plus three. Remember, this should be a fairly nonstressful set that doesn’t tax your strength; it should amplify it.) Rep speed should mimic work-set rep speed.

At the end of each warmup set you should feel blood flowing to the target due to occlusion from the nonlock partials. That blood increase will make your work sets significantly more effective. As a specific example, on bench presses you’ll push the bar from your chest to just above the midpoint of the stroke on your partials.

If you don’t feel blood moving to the target, especially after the second warmup, you may have done your warmup reps too fast. Keep each rep fairly slow, especially on your first work set, and stay in complete control to activate your nervous system, get your mind in touch with the target muscle and prime the pump.

That’s a quick, efficient warmup strategy that can get you bigger gains from your heavy work, and it will take fewer work sets to get the fast-twitch blast you’re after. Use that warmup sequence on all of your big exercises.
Advanced Warmup Considerations

There is a school of thought that using the better occlusion-producing exercises, the contracted-position isolation moves, can help make the warmup or even your work sets more effective. That's the theory behind the Postactivation tactic used to make the X-treme Lean High-Definition Workout so powerful (outlined in the X-treme Lean e-book). Postactivation continues your warmup into your work-set sequence. What the heck am I talking about? Here's an example:

Say you're using Smith machine squats as your big midrange quad move. You do your two warmup sets as indicated on the previous page, then you do your first work set, cranking out 10 reps, with the 10th rep being that last possible one you could perform. By the way, it's best not to lock out on any of those 10 reps—keep moving through the bottom two-thirds of the stroke to keep the occlusion effect intact.

Is that a tough set? You bet, but that first work set is still like part of the warmup because it is priming your nervous system with a heavy work weight for your second set, the real money set. Now, to make your second work set of squats even more effective, you rest for about one minute after that first set, then hop on the leg extension machine and do about 15 medium-intensity pistonlike reps—to create more occlusion (remember the blood-pressure-cuff study blocked forearm blood flow for two whole minutes, which produced a 20 percent strength surge). Do not do the leg extension set to failure; however, you should feel a slight burn in your quads—if it's too severe, you're weight was too heavy. Rest another minute, and then blast out your second set of Smith squats, with X Reps tacked onto the end.

If you think about it, you can deduce why this works so well. The nervous-system priming you get from the first heavy work set plus the medium-intensity occlusion set of leg extensions before your second heavy work set produces heightened fiber activation on your second set of squats. Every rep should contain explosive firepower—and you will make it even more anabolic by adding end-of-set partials right at the max-force point—where your thighs are just below parallel to the floor up to just above the parallel point. A spotter is a good idea if you do X Reps; however, you can rack it low on a Smith machine training solo (X Reps are impossible on free-bar squats). If you can't manage movement at the X spot, simply do a static X—hold the low position till you can't stand the burn. You'll get extra fiber recruitment with a hold as well, although it won't be as efficient as partial reps—some movement is best for nervous system and muscle-fiber activation.

If you train in a crowded gym, you may not be able to get on the leg extension between your sets of squats. In that case another simpler nervous system activator is to do a third warmup set with about 20 percent more weight than you plan to use on your first work set. Do one slow, controlled rep. That heavier weight will trick your nervous system and make your first work-set weight, which is 20 percent lighter, feel very manageable.

Either of these Postactivation methods is for more advanced trainees who may want to experiment with neuromuscular activation. Remember, it's attention to the little things that can make a BIG difference in your muscle gains! Pay attention to your warmup sequence and you'll get bigger better results from all of your work sets. The two-step warmup outlined in this chapter on the previous page is sufficient most of the time for most trainees.
3D
Mass
X-plosion
In the summer of 2004, Jonathan Lawson, my training partner, and I stumbled onto something that has changed our training—and gaining—forever. And it’s something that can help you trigger extreme mass gains faster than ever, once you properly apply it to 3D POF. You’ve already seen it mentioned in earlier chapters, with brief explanations, but now I want to delve into it deeper. I’m talking about X Reps, a technique that can turbocharges any set. It actually has a direct connection to how the biggest bodybuilders get outrageously huge. If you’ve ever wondered why they get so big so fast, while you have trouble building a few measly pounds of muscle a year, you’ll soon see that what we’ve found is a big piece of the puzzle.

X Reps are linked to a little-known scientific training principle, and, like I said, it’s an adaptation of what the big men use regularly to grow like crazy (unfortunately, they can’t tell you about it because they don’t even know they’re using it!). Once you understand the principle and apply it correctly, your workouts will get shorter as your muscle structures grow larger and larger. It’s based on real science, and it works especially well in conjunction with 3D POF training.

First, you’ve seen in previous chapters that many researchers believe that one of the biggest keys to muscle growth is force output. The more force you can get your muscles to generate, the more growth you will stimulate. That’s one reason compound, or multijoint, midrange exercises produce more mass gains than isolation movements—you use more weight and you can increase the poundage more easily over time. That’s progressive overload.

But there’s more to it than adding weight to the bar every so often, much more. For example, did you know that many researchers believe it’s the turnaround on certain exercises, when you move from the negative stroke to the positive, that’s the real growth trigger? Because that’s where the most force occurs. Think about it. At the bottom of an incline press, for example, when the bar shifts directions, there’s an extreme force overload as your pecs must stop the bar and then reverse it. But there’s a problem. Many scientists also say that the pecs can’t exert maximal force at the very bottom of the movement if there’s too much stretch on the muscles; the key max-force point is below the middle of the stroke, but not all the way at the bottom stretch position. Therefore, if you can somehow overload that position, you can increase the anabolic power of any set exponentially! That means much more...

X Reps: At the end of a set, when no more full reps are possible, move the resistance to the target muscle’s max-force point, such as just before full arm extension on cable curls, and pulse. Move the bar with controlled explosions from where your arms are almost straight to just below the midpoint of the stroke—about an eight-inch range.
more growth stimulation from any set.

That's exactly what the biggest bodybuilders do on almost every rep. Watch them do incline presses, and you'll see them reverse the bar before touching their upper pecs, exploding out of that position. (Some even bounce it off the chest to get the bar to the more advantageous max-force point.) By not going all the way down, they're hitting the point of max force with more overload. And an explosive turnaround makes it that much more effective—although it also makes it more dangerous.

Every exercise has its own special sweet spot, and it's usually between the middle of the stroke and the lowest point of a full rep. The biggest bodybuilders seem to know this instinctively and exploit it—they do a lot of their reps with a slightly shorter range of motion and explode out of the turnaround with heavy weight. That's precisely what gives them excessive hypertrophic overload at the sweet spot of key exercises.

Am I saying you should start jerking and heaving giant weights? No! That's the wrong strategy, despite what the pros do (remember, a lot of them have been seriously injured doing that, from pec tears to biceps tears to vertebrae blowouts to shoulder trauma). Like I said, the better way to overload the sweet spot of the key exercises for incredible leaps in mass—a way that doesn't expose you to injury the way jerking excessive poundages does—is end-of-set X Reps.

X Reps extend a set at the sweet spot of all the key growth exercises. You get extreme anabolic overload at the end of a strict set, no jerking or heaving necessary. You keep your reps strict and safe, and when you can't get another full rep, you use short X Reps to extend the set and overload the fast-twitch fibers at the precise sweet spot—anabolic overload right where the muscle needs it most.

For example, the sweet spot on chins is down close to where your arms almost lock out at the bottom—it's not at full extension; that's shoulder-injury territory—but up a little between the very bottom and the midpoint of the stroke. You'll see big bodybuilders lower to that point, usually with about 50 pounds of extra weight around their waists, and then explode with a jerk back up to the top. Don't do that! It's dangerous. Try this: Do your chins fairly slowly and strictly for 10 reps. When you can't get another full rep, lower to about halfway between the midpoint and full stretch and do partials till failure. Feel the tension build in your lats at that max-force point as you crank out as many X Reps as you can. Now you've jolted your lats with max-force overload. That should make the set anywhere from two to four times more effective at triggering hypertrophy—no need for five sets of one exercise.

In *The Ultimate Mass Workout* e-book we delve more into X Reps, and in the *Beyond X-Rep Muscle Building* e-book, we take it even further and describe some effective X-hybrid techniques. Both books contain 3D POF programs with various X Rep tactics applied to the exercises. In fact, in *UMW* we described how we used X Reps in the key position of each POF exercise. Let's take biceps for example. We said to use X Reps on the midrange movement, undergrip chins, near the middle of the stroke—arms bent at 90 degrees; on the stretch-position exercise, incline curls, we said to use X Reps at the stretch position (arms fully extended); on the contracted-position exercise, concentration curls, we said to use X Reps at the top, peak flexed point.

That's not a bad strategy, and one you may want to experiment with. It's easy to remember because you simply do X Reps in the exercise's corresponding position—midrange, through the middle of the stroke; stretch, at full elongation; and contracted at the top peak-contracted point. However, understand that the most fiber activation happens when the target muscle is almost fully elongated, no matter what exercise you're using. That means that true X Reps should be close to the
turnaround on all exercises, no matter what its designated position of flexion.

Let's go back to biceps: On the midrange exercise, undergrip chins, do your X Reps from just above the arms-extended position to just below the midpoint; on the stretch-position exercise, incline curls, do your X Reps from just above the arms-extended position to just below the midpoint; on the contracted-position exercise, concentration curls, do your X Reps from just above the arm-extended position to just below the midpoint. Do you see a pattern?

For max-force production do your X Reps from just out of full elongation to a point just before the midpoint of the stroke. That's not to say the POF-linked version is wrong. In fact, we suggest you try X Reps in those other positions every so often, but most of the time you should do your X Reps near target-muscle elongation. (Note: Because that semi-stretched position is the best spot for force production, we developed the X Fade technique for contracted-position moves. With this tactic you do X Reps in the flexed position first, that's the weakest position, then move to the strongest position, the max-force point near full elongation, and finish with X Reps there. It's an advanced technique that has given us great gains. It's fully explained, along with many other X-hybrid techniques, in our Beyond X-Rep Muscle Building e-book.)

We're still finding a lot of answers with our experimentation at the IRON MAN Training & Research Center, which should tell you that you should never stop experimenting. And we're still using X Reps in their purest form. They've worked incredibly well for us. In the first part of this chapter I said we stumbled onto the concept in the summer of 2004. We made some of the best gains of our lives—and that's after more than 40 years, collectively, of training experience! I was 46 then, and I'm still gaining muscle with 3D POF; X Reps and X-hybrid techniques. In that initial X-periment in '04 we used X Reps on only one set of key exercises—while we were dieting strictly for a photo shoot—and we made the most spectacular gains of our training careers in one month, even after reducing our sets per bodypart by half. (See photos below.)

If you are an experienced weight trainer, I suggest you add X Reps to your second set of the first exercise (midrange) for each bodypart in the 3D POF Revised Size Surge Mass Program. Those end-of-set partials at the low semistretch point will ramp up max-force production. Extended tension is very important for building extreme mass fast, and those effects accrue best on contracted (isolation) exercises. I suggest you do a drop set on those to amplify extended tension effects and endurance-component development (mitochondria, capillaries and so on). For a drop set, do one set to exhaustion, decrease the poundage, then immediately do another set to exhaustion. These are intensity upticks that will supercharge your workouts and increase your gains significantly. (The revised Phase 2 routine with those techniques in place is on the next two pages.)

These are the gains we made in only one month during our first X-Rep experiment (no steroids, no photo retouching). We used X Reps on only one set of key exercises in a 3D POF training program. (Note: That complete routine is listed in The Ultimate Mass Workout e-book. For more information visit www.X-Rep.com.)
3D POF Every-Other-Day X-Rep Phase 2 Size Surge Mass Program

Workout 1: Quadriceps, Hamstrings, Calves, Chest, Triceps

- **Quadriceps Midrange**
  - Squats*, 2 x 10-12

- **Quadriceps Stretch**
  - Sissy squats, 1 x 10-12

- **Quadriceps Contracted (drop set)**
  - Leg extensions*, 1 x 10(6)

- **Quadriceps Midrange (X Reps)**
  - Feet-forward Smith squats, 1 x 10-12

- **Hamstrings Midrange & Stretch**
  - Semi-stiff-legged deadlifts*, 2 x 10-12

- **Hamstrings Contracted (drop set)**
  - Leg curls*, 1 x 10(6)

- **Calves Midrange (X Reps on 2nd set)**
  - Knee-flexion leg press calf raises, 2 x 15-20

- **Calves Stretch**
  - Leg press calf raises*, 1 x 15-20

- **Calves Contracted (drop set)**
  - Standing calf raises, 1 x 15(8)

- **Upper Chest Midrange (X Reps on 2nd set)**
  - Incline barbell presses*, 2 x 10-12

- **Upper Chest Stretch & Contracted (drop set)**
  - High or incline cable flyes, 1 x 10(6)

- **Lower Chest Midrange (X Reps on 2nd set)**
  - Decline presses
    - or wide-grip dips*, 2 x 10-12

- **Lower Chest Stretch & Contracted (drop set)**
  - Low or decline cable flyes, 1 x 10(6)

- **Triceps Midrange (X Reps on 2nd set)**
  - Dips* (arms in close), 2 x 10-12

- **Triceps Stretch**
  - Overhead extensions, 1 x 10-12

- **Triceps Contracted (drop set)**
  - Dumbbell kickbacks, 1 x 10(6)

*Do two warmup sets with 50 and 80 percent of your work weight for 10 and eight reps, respectively, prior to your work sets. (See Chapter 12.)
**3D POF Every-Other-Day X-Rep Phase 2 Size Surge Mass Program**

**Workout 2: Back, Deltoids, Biceps, Abdominals**

- **Lats Midrange (X Reps on 2nd set)**
  - Chinups
  - or pulldowns to front*, 2 x 10-12

- **Lats Stretch**
  - Dumbbell pullovers*, 1 x 10-12

- **Lats Contracted (drop set)**
  - Undergrip pulldowns or chins, 1 x 10(6)

- **Midback Midrange**
  - Covered with lat midrange work

- **Midback Stretch**
  - One-arm dumbbell rows, 2 x 10-12

- **Midback Contracted (drop set)**
  - Shoulder-width-grip cable rows, 1 x 10(6)

- **Deltoids Midrange (X Reps on 2nd set)**
  - Dumbbell upright rows*, 2 x 10-12

- **Deltoids Stretch**
  - Incline one-arm lateral raises, 1 x 10-12

- **Deltoids Contracted (drop set)**
  - Forward-lean lateral raises, 1 x 10(6)

- **Delts Front-Head Midrange (X Reps)**
  - Barbell or dumbbell presses*, 1 x 10-12

- **Biceps Midrange (X Reps on 2nd set)**
  - Close-grip cable curls*, 2 x 10-12

- **Biceps Stretch**
  - Incline dumbbell curls, 1 x 10-12

- **Biceps Contracted (drop set)**
  - Concentration curls, 1 x 10(6)

- **Abdominals Midrange & Lower Contracted (X Reps)**
  - Incline kneeups, 1 x 12-15

- **Abdominals Stretch & Upper Contracted (drop set)**
  - Full-range crunches
  - or Ab Bench crunches, 1 x 10(6)

*Do two warmup sets with 50 and 80 percent of your work weight for 10 and eight reps, respectively, prior to your work sets. (See Chapter 12.)
Exercise Execution and Analysis

Performing the exercises correctly is critical if you want to build the most muscle in the shortest time possible. Here are performance tips and comments on each exercise. (You may want to print these descriptions and keep them with your routine on your clipboard for review during your workout. Watch for video clips of many of these exercises at www.X-Rep.com.)

Workout 1

**Squats (M, quads), 2 x 10-12.** We prefer to do these on a Smith machine to help keep the stress on our quads rather than our lower back and glutes, but you can do these free-bar style. If you use a machine, position your feet slightly forward of your torso, feet at about shoulder width and feet angled outward slightly. Keeping your torso vertical, squat till your knees break a 90 degree angle—when your thighs are slightly below parallel to the ground—then immediately drive the weight up to a point about one-third of the way down from lockout to keep tension on your quads. Do not pause at the top or bottom of the reps—use a pistonlike cadence. Locking out will remove tension from your quads and significantly decrease the mass-building effects of this exercise. Note: If you do free-bar squats, X Reps are impossible. You can do top-end X Reps instead, as described in The Ultimate Mass Workout e-book.

**Sissy squats (S, quads), 1 x 10-12.** Do these near an upright you can hold to stabilize yourself throughout the movement (or do them in a Smith machine with a towel looped around the bar so you can hang onto the ends). Rise up on your toes and squat down, but do not bend at the waist. Keep your torso and thighs on the same plane—like you’re doing the limbo under a low bar. When your hamstrings meet your calves, and you feel a distinct pull in your front-thigh muscles, reverse the movement, driving up with your quads till you’re two-thirds of the way to fully erect. In other words, do not raise up high enough to remove tension from your quads. Do not pause at the top or bottom of the stroke.

**Leg extensions (C, quads), 1 x 10(6).** Sit on a leg extension machine, feet hooked under the foot pads. Drive your lower legs up till your knees are almost locked, but just prior to that point reverse the movement and lower the weight till your knees are at a 90 degree angle, no lower or you could damage your knees. Once again, no pause at the top or bottom of the stroke—keep the weight moving.

**Feet-forward Smith-machine squats (M, hamstrings), 1 x 10-12.** Go back to the Smith machine, but this time place your feet farther forward of your torso and take a stance that’s slightly wider than shoulder width. Squat down and up just as you did for quads, keeping your torso perpendicular and without pausing at the top or bottom of the stroke. Try to feel the muscles on the backs of your thighs engaging through the stroke. You can also do these on a hack machine. Do X-Rep pulses at the end of your set near the bottom of the stroke.

**Semi-stiff-legged deadlifts (S, hamstrings), 2 x 10-12.** Stand erect with a barbell at arm’s length at your upper thighs. Keep your back flat and a slight bend in your knees as you bend forward and lower the bar. Keep it as close to your legs as possible—your butt will move backward as you lower. When the bar is at midshin level you should feel a distinct pull in your hamstrings, and you should reverse the downward stroke. Pull the bar up, once again keeping it close to your legs and keeping your back flat, till the bar is just above your knees, then reverse the upward movement. No pauses. If you find this exercise places too much stress on your lower back, you can use hyperextensions as a replacement; however, keep a flat back throughout—no arching. Also, no pauses and don’t raise your torso past the plane of your legs.
Leg curls (C, hamstrings), 1 x 10(6). Lie face down on a leg curl machine with your feet hooked under the foot pads. Curl your lower legs up till your knees break 90 degrees, then, without pausing, lower till your legs are almost straight. Immediately reverse the downward movement at that point without pausing. You may want to try these with a slightly wider foot placement for a unique hamstring-building effect. On either version keep your toes cocked toward your shins.

Knee-flexion leg press calf raises (M, calves), 2 x 15-20. Position yourself on a leg press with only the balls of your feet on the foot plate, your knees locked. Lower the weight by allowing your feet to come toward you as you simultaneously unlock your knees. From that slight bent-knee position, with your feet in the stretch position of a calf raise, simultaneously push your knees to lockout and your feet to the top calf-raise position. Do not pause at the top or bottom—keep your calves firing with a pistonlike cadence and help from a push-press action involving your quads. (You should be able to work up to some impressive poundage here to really overload your gastroc for new growth!) Do X Reps out of the bottom position.

Leg press calf raises (S, calves), 1 x 15-20. Do the strict version of the previous exercise by keeping a slight bend at your knees and moving only your feet from a full stretch (toes back) up to a contraction (toes pointed). Once again, no pauses and keep tension on your calves throughout each set.

Standing calf raises (C, calves), 1 x 15(8). Do these on a standing calf machine, a slight break in your knees and your torso and legs on the same plane. Move from stretch to contraction without pauses at the bottom or top. On one set use a partial range for better continuous tension—move from just before the bottom stretch up to just prior to the on-your-toes contracted position. That middle range action will create more blood-flow blockage (occlusion) to beef up the endurance components of the muscle cells (your calves benefit greatly from occlusion because they are endurance-oriented muscles). You can also do calf raises one leg at a time, holding a dumbbell in one hand and a stationary upright with the other for balance. We prefer to do these with the dumbbell in the hand opposite to the calf that’s working, but hold the ‘bell in the hand that has you feel your calf muscles working the most.

Incline presses (M, upper chest), 2 x 10-12. We prefer to do these on a Smith machine on a bench set at below 45 degrees. You should lower the bar to a point on your chest right below your collar bones; however, you should not touch your chest with the bar—reverse the movement when the bar is about two inches away from your chest. On the upward stroke, reverse the movement when you drive the bar just past the halfway point so you keep tension on your pecs. Your grip should be slightly wider than shoulder width—so you feel a distinct pull on your upper chest at the low point. You can do these with a free bar; however, you need a spotter, and X Reps, end-of-set low partials, may be more difficult—your spotter may need to provide assistance.

Incline cable flyes (S&C, upper chest), 1 x 10(6). Place an incline bench set at 45 degrees between the low-cable handles in a crossover machine. With a cable handle in each hand, recline on the bench and pull the handles from an arms-outstretched position, at a point where you feel a distinct stretch in your upper chest, in an arc till your hands touch above your face—no pause at the top or bottom of the reps. Keep a slight bend in your elbows throughout the stroke. You can also do these on a flat bench, but you pull the handles up over your forehead, or higher, to engage your upper pecs. (We call those high cable flyes.)

Decline presses (M, middle/lower chest), 2 x 10-12. You can do these on a Smith machine or free-bar style (or do wide-grip dips instead). The decline of the bench should be such that near lockout, when your arms are almost straight, the bar is above your upper abdomen. Use a grip that’s slightly wider than shoulder width, and reverse the downward stroke when the bar is about two inches away from your low-pec line. Reverse the upward stroke when your arms are almost to lockout—but do not lock out; keep the bar moving.
Low cables flyes (S&C, middle/lower chest), 1 x 10(6). Do these just like incline cable flyes, only perform them on a flat bench and pull the handles in an arc over your middle chest area. Try to keep your shoulders back, shoulder blades squeezed together and your chest high to keep your pecs engaged throughout the set. Don't pause at the top or bottom of the stroke—keep moving.

Dips (M, triceps), 2 x 10-12. Do these on parallel bars, palms facing in and hands almost directly under your shoulders (wider-grip bars will tend to work your chest). Lower yourself till your biceps meet your forearms, your elbows just breaking a 90 degree angle. Without pausing, drive up till your arms are almost locked, but not quite, then reverse your upward movement without pausing. Keep your arms close to your body throughout the exercise and keep your torso as upright as possible. If you can't do dips, do decline close-grip bench press. Form should be exactly like the description above for chest work, only use a grip that's slightly narrower than shoulder width and keep your arms tucked in close to your torso. Once again, no pauses at the top or bottom and don't go to full lockout on any rep.

Overhead extensions (S, triceps), 1 x 10-12. We prefer to do these with a dumbbell in each hand, simultaneously, on a seated bench with back support. With the dumbbells over your head, as in the finish position of a press, palms facing each other, lower the dumbbells in an arc till the dumbbells almost touch your shoulders; you should feel a distinct stretch in your triceps. Reverse the downward stroke immediately and drive the 'bells up till your elbows almost lockout, but reverse the movement just prior to lockout. Keep the dumbbells moving and try to keep your upper arms as stationary as possible and close to your head for maximum triceps stretch at the bottom of each rep.

Kickbacks (C, triceps), 1 x 10(6). We prefer to do these using both arms at once and with chest support. If you don't have a bench for chest support, bend at the waist till your torso is parallel with the floor. With a dumbbell in each hand, your upper arms against your sides and your elbows bent at 90 degrees, extend the dumbbells back and up in an arc till your arms are straight and your elbows are locked. As soon as you reach lockout, lower the dumbbells with control till your elbows are just shy of 90 degrees—to keep tension on your triceps—and then extend again for another rep. Try to keep your upper arms slightly higher than your torso for better triceps contraction. If you choose pushdowns instead, do them one arm at a time with a rope attachment so your upper arm moves back behind your torso.

Workout 2

Chins or pulldowns to the front (M, lats), 2 x 10-12. Use a grip that's slightly wider than shoulder width with your palms facing each other. Don't lock out your arms at the top—reverse the upward movement right before your arms fully extend to prevent shoulder trauma and to keep tension on your lats. With a slight arch in your lower back, pull the bar down till it almost touches your upper chest. Do X Reps from just out of lockout down about eight inches.

Dumbbell pullovers (S, lats), 1 x 10-12. We prefer to do these with a dumbbell in each hand. Begin as if you were going to do a dumbbell bench press, but position the dumbbells at arm's length over your chest with your palms facing each other, the dumbbells touching (together). With a slight bend at your elbows, lower the dumbbells together in an arc back behind your head till your hands are on the same plane as your head—you should feel a distinct pull in your lats at that stretch point. Without pausing pull the dumbbells up till your hands are above your face, so tension remains on your lats, then, without pausing, lower back down to the stretch position. No pauses at the top or bottom.

Undergrip pulldowns or chins (C, lats), 1 x 10(6). Take an undergrip on the bar with your hands about shoulder-width apart and your arms just out of the lockout position. With a slight arch in your back pull the bar down till it almost touches
your lower chest. Don't pause at the top or bottom of the stroke—keep tension on your lats throughout the set.

**One-arm dumbbell rows (S, midback), 2 x 10-12.** Bend at the waist with a dumbbell in one hand at arm's length and the other arm on a high bench or dumbbell rack to brace your torso. Pull the dumbbell up toward your chest with your palm facing back and your arm angled slightly out and away from your torso so you engage the midback, not the lats. When the dumbbell is close to your upper midsection, immediately lower it under control, allowing it to pull your arm down and to the midline of your torso to stretch your midback muscle. When you reach the low point, arm almost locked but not quite, immediately reverse the movement and pull the 'bell back up to the top position. You can also work the midback's stretch position with seated cable rows using a close-grip V handle. Keep your torso vertical, don't go all the way to lock out and keep your arms slightly up and away from your torso.

**Shoulder-width-grip cable rows (C, midback), 1 x 10(6).** While this exercise puts your midback in the contracted position at the top of each rep, it does have synergy. Use an overgrip with a hand spacing that's just slightly wider than shoulder width. Pull the bar back toward you till it almost touches our lower chest, squeezing your scapulae together as you pull. To make that action more natural, keep your arms up slightly away from your torso; if they are down next to it you will work your lats more than your midback. Don't pause at the top; reverse the movement immediately and lower until your arms are almost fully extended. Right before full extension as your scapulae move apart, reverse the action immediately and pull back to the top. If you train at home you can do bent-over barbell rows, but keep your back flat and your torso held in a position that's only slightly higher than parallel to the ground. You can also do this exercise with a dumbbell in each hand, rowing them simultaneously. Chest support makes it one of the best moves, as it then has stretch-, contracted- and midrange-position characteristics.

**Dumbbell upright rows (M, delts), 2 x 10-12.** Stand erect with a dumbbell in each hand at arm's length down by your thighs. Pull the dumbbells up and out as you bend your elbows. Your biceps and traps will help your delts create the force necessary to raise the dumbbells. At the top your hands should be just forward and slightly in front of your front delts, simulating a wide-grip upright row. When you reach that position, lower without pausing till your hands are down near your outer thighs and your arms are just out of the lockout position. Once again, don't pause; immediately reverse the downward stroke and pull back up to the top, hands-wide, position. For variety, or when your strength outruns your top-end dumbbells, try rack pulls. Use a barbell resting on the long pins in a power rack set at about knee level. Grab the bar with a grip that's about a hand space wider than shoulder width on each side and stand erect. With a slight heave and some leg drive, pull the bar up in an upright-row motion till its just above your belly button, then lower immediately. Keep the bar moving.

**Incline one-arm laterals (S, delts), 1 x 10-12.** For these you sit sideways on an incline bench, your nonworking shoulder against the bench so your torso is at an angle. That's important because you will have a dumbbell in the hand of your outer arm, and that dumbbell must pull your arm down and across your torso to create some stretch in your medial-delt head. Keep a slight bend in your working arm, allow the dumbbell to move as close to you as possible as your arm moves in front of your body. Before tension falls off your delt, right before your arm is perpendicular to the floor, reverse the downward movement and raise the dumbbell in an arc till your arm is parallel with the floor. When you reach that point, immediately reverse the movement and control the downward arc to the low, stretch position. Maintain tension on your medial-delt head throughout the set—you should feel a distinct pull on that head at the bottom of the stroke.

**Forward-lean laterals (C, delts), 1 x 10(6).** We like to do these with our chests...
against a high incline bench; however, you can do these seated or standing as long as you keep your torso angled forward throughout each set. Start with the dumbbells down at arm’s length in front of your thighs, with your elbows slightly bent. Keep that bend constant and raise the dumbbells up and out in an arc till they are almost at shoulder level. Without pausing, lower till they touch in front of you and then immediately initiate another rep. Staying in slight forward-lean position is critical to building the medial head of the deltoid muscle for more torso width.

**Barbell or dumbbell presses (M, delts, front head), 1 x 10-12.** We like pressing overhead on a Smith machine so there are no balance issues—you just push; however, we also use dumbbells, driving them up and out so the arms are angled like the sides of a W. That keeps more tension on the delts. If you use a bar, drive from your chin up to just out of lockout at the top. Do X Reps from chin level to about eye level.

**Close-grip curls (M, biceps), 2 x 10-12.** If you plan on doing X Reps, the cable version of this exercise is best. You won’t be able to do X Reps with a barbell. In either case, take a grip on the bar that’s just narrower than shoulder width. MRI studies show that a narrower grip hits both head of the biceps brachii hard—shoulder width and wider neglects the outer head somewhat. Curl the bar from just shy of lockout (arms almost straight, but not quite) up till your elbows break 90 degrees. Don’t let your upper arms move too far forward or you’ll lose biceps tension. Keep the bar moving, no pause at the top or bottom of the stroke.

**Incline curls (S, biceps), 1 x 10-12.** Set an incline bench at about 45 degrees and recline on it with a dumbbell in each hand. Lower the ’bells till they are almost at arm’s length, just out of lockout, hanging down behind your torso. Curl the dumbbells, keeping your palms facing forward and your upper arms stationary (you may be able to brace them against the sides of the bench). When your elbows are bent slightly more than 90 degrees, immediately reverse the upward movement and lower down to near lockout before reversing for another rep. You should feel tension on your biceps throughout the set and a distinct pull on your biceps at the bottom of the stroke.

**Concentration curls (C, biceps), 1 x 10(6).** We like to do these standing and bent at the waist, the nonworking arm braced on our leg (Arnold style); however, you can do these sitting with your working arm’s elbow braced against the inside of your leg—just don’t lean back to cheat the weight up. With the dumbbell down at arm’s length, elbow slightly bent, curl it up till it almost touches your opposite shoulder. At that high point lower the dumbbell immediately back to the low position, not quite to lockout. Once again, no pause at the top or bottom. Keep a steady cadence and tension on your biceps at all times.

**Incline kneeups (M&C, abs), 1 x 12-15.** Position yourself on a situp slant board so your head is at the top high end. Grab the sides of the bench next to your head for stability, then with a slight bend at your knees raise your legs until your knees are above your chest and your hips are rolled up off the bench. Without pausing lower your legs in an arc till your heels almost touch the floor, then reverse the downward stroke without pausing and pull your legs up to the highest position again. Keep tension on your abs throughout the set; don’t throw your legs up and allow your feet to travel back behind your head. At the top of each rep your feet should be above your face.

**Full-range crunches (S&C, abs), 1 x 10(6).** Recline on a bench press bench, head and upper back hanging off the end and feet up on the bar that’s resting across the bench uprights. Lower your head and shoulders down past the plane of the bench till you feel a stretch in your abs, then, without pausing, curl your upper body up into a crunch position. At the top, abs-contracted point, don’t pause, but slowly lower (uncurl) back to the stretch position and then immediately execute another rep. You can do full-range crunches more effectively and comfortably on an Ab Bench (available at Home-Gym.com).
**X Reps.** These are end-of-set partials at the semistretch point and movement is only about eight inches. For example, when you reach exhaustion on incline presses, you lower the bar to about five inches off your chest and pulse up and down in about an eight-inch range till exhaustion. You may need a spotter on some exercises, and if you can’t do X-Rep pulses, you can do a static hold at the X Spot or have your spotter help you with forced X Reps, providing assistance through the X Range. In the Phase 2 routine you do X Reps on the second set of most of the big midrange exercises to enhance max-force generation, which can activate more fibers.

**Drop set.** Perform a set to exhaustion, decrease the weight by about 20 percent and immediately do another set to exhaustion. Your repetitions should go something like 10 on the first set and six on the second—designated as 10(6). This extends tension time on the target muscle. You use drop sets on most contracted-position exercises to develop the endurance components of the fast-twitch 2A fibers.
14

3D Muscle-Size F/X Training
You should now have a good understanding of basic 3D POF and X Reps. Jonathan and I made some incredible gains when we merged those two concepts using primarily straight sets and drop sets, similar to the Phase 2 program in the last chapter (our first 3D POF X-Rep routine is outlined in *The Ultimate Mass Workout* e-book in its entirety); however, we refined that strategy recently to get even bigger and better. I’ll describe what we did so you grasp the concept and the reasons it can build so much muscle, then I’ll take this new information and use it to supercharge the Phase 1 Size Surge program.

We’ve always started each bodypart routine with straight sets of a big, basic, compound movement—midrange exercise. Also, we used longer rests of about three minutes after those sets. All of that adds up to max-force production on those beginning sets (remember, generating maximum force is one of the biggest keys to muscle growth). After the midrange exercise we’d move to a single-joint contracted-position movement for continuous tension. Instead of straight sets, we did that movement with a drop set to extend the tension time and to create a sear-factor effect that enhances growth hormone production. For example, one of our delt routines was:

**Delts (force + extended tension + stretch)**

(M) Dumbbell upright rows (3 minutes after each set), 2 x 9-12
(C) Forward-lean laterals (double-drop set), 1 x 8(6)(4)
(S) Incline one-arm laterals (drop set), 1 x 10(6)

That’s dumbbell upright rows, two sets with a three-minute rest between, and X Reps for max-force generation; then we’d follow with a double-drop set—three back-to-back sets, with a weight reduction on each—on forward-lean laterals, a contracted-position exercise. We’d end with a drop set—two back-to-back sets, with a weight reduction—on one-arm cable laterals, a stretch-position exercise. Nice combo routine, that’s a bit more advanced than Phase 2 of the 10-week program due to the more extensive use of drop sets. We were making excellent gains with that and similar programs for each bodypart, but then we started thinking about specificity.

*Specificity* is more than just a hard word to pronounce—it’s a key muscle-training concept, and we were using it, to a degree. Max-force generation was our specific goal up front on the straight sets, and we used the best exercises for that purpose—compound, or midrange, movements that placed the target muscle in the ergonomically correct position to blast out reps with extreme force (the ultimate exercises). Then we shifted our emphasis to continuous tension, once again using specific exercises for a specific goal—single-joint continuous-tension contracted...
moves to fuel the fire—and we ended with stretch overload.

But we soon realized that there may be a better way that’s more in line with the specificity concept...

As I’ve said numerous times in this e-book, a big key to packing on size is max force, but a close second is extended tension. We were using both at each workout—but what if instead of using both at every workout, you attacked max force at one and extended tension at the next? There would be no performance interference or adaptation confusion. In other words, your muscle cells would need to cope with and recover from only one type of stress. As strength-training researchers Vladimir Zatsiorsky, Ph.D., and William Kraemer, Ph.D., put it in their new book *Science and Practice of Strength Training*, “Training adaptations are highly specific…and the transfer of training gains can differ greatly even in very similar exercises.” It all depends on how you train the exercise.

For example, certain types of squats are the best at getting your quads to generate force. Because of the multi-joint nature of the movement, you can move heavy poundages for maximum overload; however, you generate force on leg extensions too, even though it’s a single-joint exercise with continuous tension. Sure, you can’t produce as much force on leg extensions as you can on squats, but it’s still a viable exercise to achieve some force overload on a few more fibers. Science has shown that leg extensions can have a different fiber-recruitment pattern than squats, so using leg extensions as a force-production exercise has merit for faster, fuller muscular development.

It goes in the other direction too. While squats are best at max-force generation, you can use it as an extended-tension exercise. How? Do it nonlock style, and drop the D-bomb—the drop-set tactic—on one grueling cycle. Back-to-back sets of nonlock squats will take courage, but the extended tension will give your quads some new dimensions in no time.

Obviously you can’t separate max force and extended tension completely. There will be overlap—the first phase of a drop set will always generate high force because it’s like a straight set to exhaustion; however, you can focus on one or the other at each workout, which is exactly what we’ve been doing. Results? We’ve found that it speeds gains significantly. We were amazed at how fast our physiques changed once we adopted this specificity method.

It’s simple: We do straight sets at one session for a bodypart, using the 3D POF exercises, and then drop sets, tri-sets and/or supersets at the next, with those same exercises. In a way it’s like a 3D POF heavy/light system, with a twist. We use the same exercises at each workout, but we group them to get extended tension at one session and then do straight sets at the next for max force. It’s an exciting concept if you’re after more mass with quick, precision hits. (As you’ll see, it works well with the Phase 1 Size Surge routine.)

There is a fly in the ointment for some trainees, however. Straight sets on max-force day shouldn’t be a problem, but if you train in a crowded commercial gym, tri-sets and supersets, which have you use different exercises back to back, for extended-tension workouts can be frustrating or impossible (during your first exercise you have to stop midway and scream, “Hey, I’m going to use that!”) There is a simple solution.

Instead of tri-sets and supersets, rely on drop sets and double-drop sets only—the back-to-back-sets tactic with weight reductions on the same exercise. You stay put at the same spot and just reduce the poundage. The easiest way to understand it is to think about it this way:

•First you do the big compound, or midrange, exercise, double-drop-set style (two quick poundage reductions—three back-to-back sets). [Note: You can use multi-rep rest/pause tactics like ROB and DC training instead of a double drop]
so you don't have to change weights. The version I like is you do a set, rest 10 seconds, do a second set, rest 10 seconds, then do a third and final set. That's three sets, all with the same weight, with 10-second rests between them. More on that later in this chapter.

• Second, you do the contracted-position, or more isolated, exercise as a drop set (two back-to-back sets).

• Third, you finish with a drop set on the stretch-position exercise.

Let's look at a simple 3D delt-training example so you see the contrast between max force and extended tension:

**Delts (max force)**
(M) Dumbbell upright rows, 2 x 9-12
(C) Forward-lean laterals, 2 x 9-12
(S) Incline one-arm laterals, 2 x 9-12

Note: 2 1/2 to three minutes of rest after each set for max-force generation.

**Delts (extended tension)**
(M) Dumbbell upright rows (double drop or multi-rep rest/pause), 1 x 9(6)(4)
(C) Forward-lean laterals (drop set), 1 x 9(6)
(S) Incline one-arm laterals (drop set), 1 x 9(6)

Using drop sets will give you almost equal extended-tension benefits of tri-sets and supersets—a fast endurance-component blast with just a bit of force production—and a skin-stretching pump. Notice that on max-force day you do the same exercises, only with straight sets—no drops. That's the big difference.

**X Reps, Stretch Moves and Max Force**

So where do X Reps, end-of-set partials that heighten fiber activation, fit best in this routine? Are they max-force generators or extended-tension enhancers? Think about it. They extend a set because you use them at exhaustion to keep the muscle firing—but you do them right at the max-force point. In other words, they go both ways, so they are a perfect fit on max-force day or in extended-tension workouts.

On max-force day we usually use X-Rep partials on the last straight set of an exercise. On extended-tension day we usually use them on the last phase of a drop set.

Once we put all of this into practice, as outlined, we realized some impressive new gains quickly.

**Singles and Max-Force Generation**

Obviously, max-force generation is very important, and you want as much as possible as quickly as possible up front on max-force (F) day. So why not use low reps? Heck, why not singles?

Well, lower reps are more dangerous, but that's not the reason we don't do them. The reason is because of severe nervous system fizzle. That's due to the Golgi tendon organs in muscle fibers. According to Zatsiorsky and Kraemer, “If muscle tension increases sharply [as it does with a heavy max-single load], the Golgi tendon reflex evokes the inhibition of muscle action.”

You can train specifically to raise the threshold of the Golgi tendon reflex, as powerlifters do, but that takes a lot of strength-oriented work, and we're more interested in muscle-size gains. For bodybuilders it's better to keep the reps in the hypertrophic zone—nine to 12—to allow the size-principle of fiber recruitment to
occur and get at as many fast-twitch fibers as possible with a progressive buildup of force throughout the set.

With the size principle of fiber recruitment you get the low-threshold motor units to fire first, the mediums to fire next and the high-threshold motor units to fire last. That’s the domino effect for maximum fiber recruitment, and it works best with around 10 reps—25 to 30 seconds of tension time per set.

With a poundage close to your one-rep max—that allows only a single, double or triple—the extremely heavy weight derails the size principle of recruitment, and you engage the high-threshold motor units immediately, which causes the nervous system to short circuit and crap out early before optimum fiber recruitment occurs. If you’re more interested in strength than muscle, you can train specifically to improve the Golgi tendon reflex, as powerlifters do, but it takes lots of time and many sets. We’re more interested in maximum muscle mass with a strength side effect.

Even so, we readily admit that there may be unique force-generation benefits to using low reps every so often, so if you’re a bodybuilder who craves low reps, you could jack up the weight on a third set of your big exercise on force day and do a triple. We haven’t tried it because of the above reasoning; however, it may be worth experimenting with—but be careful!

On the next few pages you’ll find a new Size Surge Phase 1 routine. It’s more intense than the original Phase 1 program Jonathan used, but one of the best time-sensitive mass-building routines around. Give it a go and you’re sure to grow!

The ROB Method and DC Training

The Rest-Only-Briefly method and the Doggcrapp method are similar multi-rep rest/pause techniques that you may have heard of and you may want to incorporate into the new SS Phase 1 Program. Here’s an analysis of each and how you can get the best results with them:

**ROB.** This is Rob Thoburn’s method—he’s a muscle-building researcher who corresponds with scientists worldwide. Basically you take a weight that allows eight to 10 reps, then you rest for 10 seconds, rep out again, rest for 10 seconds, and so on till you can only get one rep. It’s usually four to five quick sets with the same poundage on each.

**DC training.** This is Dante’s method, and he recommends using it on compound exercises. Take a weight that allows 10 reps, rest 20 seconds, rep out with the same weight, rest 20 seconds and rep out one last time. It’s three sets with 20 seconds of rest after each, all with the same weight. He recommends 20-second breaks to allow fatigue products to clear from the muscle; however, research shows that for max-force production 2 1/2 to three minutes after each set is necessary. That’s why we consider both of these methods rush-to-exhaustion techniques—very short rests between sets—less force oriented and more geared toward extended tension. (Standard rest/pause, as popularized by Mike Mentzer, which is based on doing four to six singles with 10 to 15 seconds between each max attempt, is more force oriented.)

The more endurance-oriented nature of multi-rep rest/pause methods like ROB and DC is one reason trainees get a surge in results when they first try either method—because most trainees aren’t used to working the endurance components of the fast-twitch 2A fibers. Most bodybuilders do heavy straight sets with tension times that are too short for that type of stimulation—six to eight fast reps for sets that last only 20 seconds or less. If they use a more endurance-oriented method like DC training or the ROB technique, the mitochondria in the muscle cells and the sarcoplasm and noncontractile proteins that do not directly contribute to the production of muscle force begin to develop, producing some new hypertrophy—but force production and anaerobic stimulation could eventually suffer somewhat if you use those methods exclusively.
I like both methods but suggest using them only on extended-tension day on the first big exercise. For example, if your first delt exercise is dumbbell upright rows, pick a weight that allows you to get nine reps. When you reach exhaustion, rest 10 seconds, then do another set with the same weight; rest another 10 seconds, then do a third and final set with that same weight. This is much more convenient for barbell exercises, as you don't have to strip plates—for example, on preacher curls or squats.

We prefer the shorter rest times of the ROB method for three multi-rep rest/pause (R/P) sets; however, you may need longer rests, as with DC training, on some exercises. For example, if you get nine reps on your first set, you may need 15 to 20 seconds of rest in order to get a respectable number on your second and third sets—like on leg work. You want your reps to go something like 10, seven, five—not 10, three, one. Adjust your rest times accordingly for each exercise, but 10 seconds should be about right for the majority.

Okay, let's build a time-sensitive F/X program with Phase 1 of the 10-Week program...
### SS Phase 1 Mass F/X Program: Monday

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quads (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Squats*, 2 x 9-12</td>
<td></td>
</tr>
<tr>
<td>Leg extensions (X Reps), 1 x 9-12</td>
<td></td>
</tr>
<tr>
<td><strong>Hamstrings (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Semi-stiff-legged deadlifts*, 2 x 9-12</td>
<td></td>
</tr>
<tr>
<td>Leg curls* (X Reps), 1 x 9-12</td>
<td></td>
</tr>
<tr>
<td><strong>Chest (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Bench presses* (X Reps), 2 x 9-12</td>
<td></td>
</tr>
<tr>
<td>Flat-bench flyes, 1 x 9-12</td>
<td></td>
</tr>
<tr>
<td>Incline dumbbell presses (X Reps), 2 x 9-12</td>
<td></td>
</tr>
<tr>
<td><strong>Back (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Chins or pulldowns* (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td>Bent-over rows* (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td><strong>Dels (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Dumbbell presses* (X Reps), 2 x 7-9</td>
<td></td>
</tr>
<tr>
<td>Dumbbell upright rows (X Reps), 2 x 7-9</td>
<td></td>
</tr>
<tr>
<td><strong>Calves (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Leg press or donkey calf raises (X Reps), 2 x 12-20</td>
<td></td>
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</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

X Reps = End-of-set partials near turnaround on second set only.

R/P = Multi-rep rest/pause: set to exhaustion, rest 10 seconds, set to exhaustion with same weight, rest 10 seconds, final set to exhaustion.
### SS Phase 1 Mass F/X Program: Wednesday

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deadlifts*</td>
<td>2 x 9-12</td>
</tr>
<tr>
<td><strong>Calves (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Standing calf raises (R/P)</td>
<td>1 x 12(8)(6)</td>
</tr>
<tr>
<td><strong>Biceps (F/X)</strong></td>
<td></td>
</tr>
<tr>
<td>Barbell curls*</td>
<td>2 x 9-12</td>
</tr>
<tr>
<td>Concentration curls (drop)</td>
<td>1 x 9(6)</td>
</tr>
<tr>
<td><strong>Triceps (F/X)</strong></td>
<td></td>
</tr>
<tr>
<td>Lying triceps extensions*</td>
<td>2 x 9-12</td>
</tr>
<tr>
<td>Pushdowns or kickbacks (drop)</td>
<td>1 x 9(6)</td>
</tr>
<tr>
<td><strong>Forearms/Brachialis (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Wrist curls (R/P)</td>
<td>1 x 12(8)(6)</td>
</tr>
<tr>
<td>Hammer curls (drop)</td>
<td>1 x 9(6)</td>
</tr>
<tr>
<td><strong>Abs (F/X)</strong></td>
<td></td>
</tr>
<tr>
<td>Incline kneeups (X Reps)</td>
<td>1 x 12-20</td>
</tr>
<tr>
<td>Ab Bench crunch pulls (R/P)</td>
<td></td>
</tr>
<tr>
<td>or full-range crunches (R/P)</td>
<td>1 x 12(8)(6)</td>
</tr>
</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

X Reps = End-of-set partials near turnaround on second set only.

R/P = Multi-rep rest/pause: set to exhaustion, rest 10 seconds, set to exhaustion with same weight, rest 10 seconds, final set to exhaustion.
### SS Phase 1 Mass F/X Program: Friday

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quads (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Squats* (R/P), 1 x 9(6)(4)</td>
<td></td>
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<tr>
<td>Leg extensions (drop), 1 x 9(6)</td>
<td></td>
</tr>
<tr>
<td><strong>Hamstrings (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Leg curls (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td><strong>Soleus (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Seated calf raises* (X Reps), 2 x 12-18</td>
<td></td>
</tr>
<tr>
<td><strong>Chest (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Bench presses* (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td>Flat-bench flyes (drop), 1 x 9(6)</td>
<td></td>
</tr>
<tr>
<td>Incline dumbbell presses (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td><strong>Back (F)</strong></td>
<td></td>
</tr>
<tr>
<td>Chins or pulldowns* (X Reps), 2 x 9-12</td>
<td></td>
</tr>
<tr>
<td>Bent-over rows*, 2 x 9-12</td>
<td></td>
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<tr>
<td><strong>Delt (X)</strong></td>
<td></td>
</tr>
<tr>
<td>Dumbbell presses* (R/P), 1 x 9(6)(4)</td>
<td></td>
</tr>
<tr>
<td>Dumbbell upright rows (drop), 1 x 9(6)</td>
<td></td>
</tr>
</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

X Reps = End-of-set partials near turnaround on second set only.

R/P = Multi-rep rest/pause: set to exhaustion, rest 10 seconds, set to exhaustion with same weight, rest 10 seconds, final set to exhaustion.
SS Phase 1 Mass F/X Program Tips

1) Use the warmup sequence in Chapter 12 on all midrange exercises: Set 1 with 60 percent of your work weight for 10 reps, five full range and five partials; Set 2 with 80 percent of your work weight for eight reps, four full range and four partials.

2) Do one warmup set on any other (contracted- and stretch-position) exercises with about 70 percent of your work weight for eight reps.

3) Repetition cadence should be about 1 1/2 seconds up and 1 1/2 seconds down—slightly slower on warmup sets.

4) Rest 2 1/2 to three minutes between midrange-position-exercise sets on max-force days; rest one to 1 1/2 minutes on contracted- and stretch-position-exercise sets on max-force days. Rest 10 seconds between sets designated as multi-rep rest/pause (R/P) on extended tension days. Move as quickly as possible to the next set on drop sets, after the poundage reduction.

5) If you get the higher rep number listed for an exercise—12 in most cases—add weight at your next workout to bring your reps back to nine. You should increase the poundage if you get 11 reps on the same exercise at two consecutive workouts.

6) You can use this program as Phase 1 of the 10-Week program instead of Jonathan’s version in Chapter 2. This program is more mass-building oriented than straight sets.

7) A drop set means to do a set until you can’t get another rep, then immediately reduce the weight and continue with another set to exhaustion, striving for the number of reps listed in parenthesis. Drop sets increase the tension time and build the endurance components of the muscle cells.

8) This can be a great stand-alone program, and you can rotate in full 3D POF programs for one or two bodyparts to specialize. For example, if you want to give your chest more work, use the full POF chest program from Chapter 5 on Monday and Friday, structuring Monday’s workout as max force (straight sets and X Reps) and Friday’s as extended tension (multi-rep rest/pause and drop sets). After four weeks, you can go back to the chest exercises listed and plug in a 3D POF program for another bodypart that needs work.

Note: You can print the daily programs and take them with you to the gym on a small clipboard so you can keep track of your exercise poundages and reps (in the space provided at the right in each boxed routine). For example, writing 200 x 9 next to an exercise designates 200 pounds for nine reps.
Exercise Execution and Analysis

Performing the exercises correctly is critical if you want to build the most muscle in the shortest time possible. Here are performance tips and comments on each exercise. (You may want to print these descriptions and keep them with your routine on your clipboard for review during your workout. Video clips for many of these exercises will be available at www.X-Rep.com.)

Monday and Friday

**Squats (M, quads).** We prefer to do these on a Smith machine to help keep the stress on our quads rather than our lower back and glutes. Position your feet slightly forward of your torso, feet at about shoulder width and feet angled outward slightly. Keeping your torso vertical, squat till your knees break a 90 degree angle—when your thighs are slightly below parallel to the ground—then immediately drive the weight up to a point about one-third of the way down from lockout to keep tension on your quads. Do not pause at the top or bottom of the reps—use a pistonlike cadence. Locking out will remove tension from your quads and significantly decrease the mass-building effects of this exercise. Note: You can do squats with a free bar; however, X Reps are impossible, which is why they are not listed in the program. You can do top-end X Reps instead, as described in The Ultimate Mass Workout e-book.

**Leg extensions (C, quads).** Sit on a leg extension machine, feet hooked under the foot pads. Drive your lower legs up till your knees are almost locked, but just prior to that point reverse the movement and lower the weight till your knees are at a 90 degree angle, no lower or you could damage your knees. Once again, no pause at the top or bottom of the stroke—keep the weight moving.

**Semi-stiff-legged deadlifts (S, hamstrings) (Monday only).** Stand erect with a barbell at arm’s length at your upper thighs. Keep your back flat and a slight bend in your knees as you bend forward and lower the bar. Keep it as close to your legs as possible—your butt will move backward as you lower. When the bar is at midshin level you should feel a distinct pull in your hamstrings, and you should reverse the downward stroke. Pull the bar up, once again keeping it close to your legs and keeping your back flat, till the bar is just above your knees, then reverse the upward movement. No pauses. If you find this exercise places too much stress on your lower back, you can use hyperextensions as a replacement; however, keep a flat back throughout—no arching. Also, no pauses and don’t raise your torso past the plane of your legs.

**Leg curls (C, hamstrings).** Lie face down on a leg curl machine with your feet hooked under the foot pads. Curl your lower legs up till your knees break 90 degrees, then, without pausing, lower till your legs are almost straight. Immediately reverse the downward movement at that point without pausing. You may want to try these with a slightly wider foot placement for a unique hamstring-building effect. On either version keep your toes cocked toward your shins.

**Seated calf raises (S&C, soleus) (Friday only).** Sit in the machine with your knees under the pads and your legs bent at 90 degrees. That angle emphasizes the soleus muscle under the gastrocs when you perform the heel-raise motion. Go from full stretch to complete contraction, but on one set use only the middle range of the stroke, as described on the previous exercise—for better continuous tension.

**Bench presses (M, middle/lower chest).** You can do these on a Smith machine or free-bar style, and on a decline bench is best; however, most trainees like flat-bench presses. Use a grip that’s slightly wider than shoulder width, and reverse the downward stroke when the bar is about two inches away from your low-pec line. Reverse the upward stroke when your arms are almost to
lockout—but do not lock out; keep the bar moving.

**Flat-bench flyes (S, middle/lower chest).** Lie on a flat bench, a dumbbell in each hand at arm’s length over your chest. With a slight bend at your elbows, lower the dumbbells in an arc till they are on the same plane as your torso. You should feel a distinct pull in your pecs. Without pausing raise them in an arc two-thirds of the way up—your hands about two feet apart—and then do another rep. Remember, no pauses at the top or bottom of the stroke (each reps is a bottom range partial, like an exaggerated X Rep).

**Incline dumbbell presses (M, upper chest).** We prefer to do these on a Smith machine on a bench set at below 45 degrees, but to save setup time you can do them with dumbbells. Reverse the downward movement when the bells are down and just outside your shoulders. On the upward stroke, reverse the movement when you drive the dumbbells just past the halfway point so you keep tension on your pecs.

**Chins or pulldowns (M, lats).** Use an overgrip that’s slightly wider than shoulder width. Don’t lock out your arms at the top—reverse the upward movement right before your arms fully extend to prevent shoulder trauma and to keep tension on your lats. With a slight arch in your lower back, pull the bar down till it almost touches your upper chest (or if you’re chinning, till your chin clears the bar).

**Bent-over rows (M, midback).** If possible, do this exercise with dumbbells on a bench that provides chest support. That provides maximum stretch (when you allow your hands to face each other and come together at the bottom) and contraction (when your hands rotate to a palms-back position, arms away from torso, at the top). You can also use a barbell, but your hands are fixed at slightly wider than shoulder width. Keep your back flat, torso slightly above parallel to the ground, and pull the bar to your upper abdomen, arms away from your torso. Concentrate on squeezing your scapulae together as you pull. Don’t pause at the top; reverse the movement immediately and lower until your arms are almost fully extended. Right before full extension as your scapulae move apart, reverse the action immediately and pull back to the top.

**Dumbbell presses (M, delts, front head).** Do these standing or seated with lower-back support. With a dumbbell in each hand, drive them up and out simultaneously so your arms are angled like the sides of a W. That keeps more tension on the delts. Lower to about ear level. Do X Reps from ear level to a point even with the top of your head.

**Dumbbell upright rows (M, delts).** Stand erect with a dumbbell in each hand at arm’s length down by your thighs. Pull the dumbbells up and out as you bend your elbows. Your biceps and traps will help your delts create the force necessary to raise the dumbbells. At the top your hands should be just forward and slightly in front of your front delts, simulating a wide-grip upright row. When you reach that position, lower without pausing till your hands are down near your outer thighs and your arms are just out of the lockout position. Once again, don’t pause; immediately reverse the downward stroke and pull back up to the top, hands-wide, position. For variety, or when your strength outruns your top-end dumbbells, try rack pulls. Use a barbell resting on the long pins in a power rack set at about knee level. Grab the bar with a grip that’s about a hand space wider than shoulder width on each side and stand erect. With a slight heave and some leg drive, pull the bar up in an upright-row motion till its just above your belly button, then lower immediately. Keep the bar moving.

**Leg press calf raises (S, calves) (Monday only).** Do the strict version, keeping a slight bend at your knees and moving only your feet from a full stretch (toes back) up to a contraction (toes pointed). Once again, no pauses
and keep tension on your calves throughout each set. You can do donkey calf raises instead, with a partner sitting on your hips or on a donkey calf raise machine.

**Wednesday**

**Deadlifts (M, upper legs/back).** With a loaded bar on the floor in front of you and your feet about shoulder width apart, squat down until your thighs are just below parallel to the ground. Grab the bar with a shoulder-width overhand grip (you will need straps as you get stronger) outside of your legs. Keep your back flat, take a deep breath and stand erect, driving with your legs and hips, as you exhale. Your lower-back muscles should come more into play as the bar passes your knees. In the top position don't actually lean or arch back, but pull your shoulders back out of the slumped-shoulder posture. Lower the bar slowly back to the floor as you inhale. Touch the bar to the floor without pausing and then do another rep.

**Standing calf raises (C, calves).** Do these on a standing calf machine, a slight break in your knees and your torso and legs on the same plane. Move from stretch to contraction without pauses at the bottom or top. On one set use a partial range for better continuous tension—move from just before the bottom stretch up to just prior to the on-your-toes contracted position. That middle range action will create more blood-flow blockage (occlusion) to beef up the endurance components of the muscle cells (your calves benefit greatly from occlusion because they are endurance-oriented muscles). You can also do calf raises one leg at a time, holding a dumbbell in one hand and stationary upright with the other for balance. We prefer to do these with the dumbbell in the hand opposite to the calf that’s working, but hold the ‘bell in the hand that has you feel your calf muscles working the most.

**Barbell curls (M, biceps).** Use a straight bar and a grip that’s shoulder width or slightly narrower, as MRI studies show that a narrower grip hits both head of the biceps brachii hard—wider grips neglects the outer head somewhat. Curl the bar from just shy of lockout (arms almost straight, but not quite) up till your elbows break 90 degrees. Don't let your upper arms move too far forward or you'll lose biceps tension. Keep the bar moving, no pause at the top or bottom of the stroke.

**Concentration curls (C, biceps).** We like to do these standing and bent at the waist, the nonworking arm braced on our leg (Arnold style); however, you can do these sitting with your working arm’s elbow braced against the inside of your leg—just don’t lean back to cheat the weight up. With the dumbbell down at arm’s length, elbow slightly bent, curl it up till it almost touches your opposite shoulder. At that high point lower the dumbbell immediately back to the low position, not quite to lockout. Once again, no pause at the top or bottom. Keep a steady cadence and tension on your biceps at all times.

**Lying triceps extensions (C, biceps).** Try do these on a slight decline with an EZ-curl bar. Grip the bar at the innermost bends. Start with your arms extended, bar over your eyes. Lower to the top of your head, then drive it back up just short of lockout. Keep tension on your triceps, no pause at the top or bottom of the stroke.

**Pushdowns or kickbacks (C, triceps).** We prefer to do kickbacks using both arms at once and with chest support. If you don’t have a bench for chest support, bend at the waist till your torso is parallel with the floor. With a dumbbell in each hand, your upper arms against your sides and your elbows bent at 90 degrees, extend the dumbbells back and up in an arc till your arms are straight and your elbows are locked. As soon as you reach lockout, lower
the dumbbells with control till your elbows are just shy of 90 degrees—to keep tension on your triceps—and then extend again for another rep. Try to keep your upper arms slightly higher than your torso for better triceps contraction. If you choose pushdowns instead, do them with a V-handle attachment, if possible.

**Wrist curls (S&C, forearm flexors—underside).** Take an underhand grip on a light barbell, sit on a flat bench and rest your forearms on the bench between your legs, with just your hands hanging off the end. Curl the bar up as high as possible with hand movement only—your forearms should stay on the bench. When you reach the top position, immediately lower the bar almost to the point at which your hand is perpendicular to the floor, but not quite—you want to keep tension on the flexors throughout the exercise. Reverse the downward movement immediately for another rep. (Remember, the forearms are like the calves in that they are endurance-oriented muscles, so extended tension is very important for fast development.)

**Hammer curls (M, brachialis and forearm extensors—topside).** Take a dumbbell in each hand and curl them simultaneously with your thumbs up—palms facing in. Keep your upper arms pinned at your sides. Reverse the movement when your elbows break 90 degrees to keep tension on your forearms and brachialis. At the bottom stop just before your arms are straight, and don't pause at the top or bottom of the stroke.

**Incline kneeups (M&C, abs).** Position yourself on a situp slant board so your head is at the top high end. Grab the sides of the bench next to your head for stability, then with a slight bend at your knees raise your legs until your knees are above your chest and your hips are rolled up off the bench. Without pausing lower your legs in an arc till your heels almost touch the floor, then reverse the downward stroke without pausing and pull your legs up to the highest position again. Keep tension on your abs throughout the set; don't throw your legs up and allow your feet to travel back behind your head. At the top of each rep your feet should be above your face.

**Full-range crunches (S&C, abs).** Recline on a bench press bench, head and upper back hanging off the end and feet up on the bar that's resting across the bench uprights. Lower your head and shoulders down past the plane of the bench till you feel a stretch in your abs, then, without pausing, curl your upper body up into a crunch position. At the top, abs-contracted point, don't pause, but slowly lower (uncurl) back to the stretch position and then immediately execute another rep. You can do full-range crunches more effectively and comfortably on an Ab Bench (available at Home-Gym.com).
Q: I'm so confused. I read that most top bodybuilders do 20 sets or more per bodypart, but then Mike Mentzer's Heavy Duty programs have only one set of one exercise for each bodypart. I read that two researchers looked at a bunch of studies comparing multiple-set training to single-set training, and there was no difference in results. Should I go the single-set route? I don't have a lot of time to work out, but I do want the best gains I can get.

A: Keep in mind that those studies were looking at strength, not muscle growth. There's a big difference between getting stronger and getting bigger.

Yes, pushing or pulling more weight can help add to fiber size, but there are many more facets to achieving extreme hypertrophy, as I explained in Chapter 11. A big one is building the endurance components of the fast-twitch 2A fibers. That takes longer tension times and occlusion, or blocking blood flow to the muscle, with multiple sets or drop sets. Stretch overload is also important, as it can increase anabolic receptors in muscle tissue and may even stimulate hyperplasia, or fiber splitting, after long periods of use.

Yes, getting stronger does increase force production, which is one key component of building more muscle. If all you're interested in is strength with blips on the size meter, you may want to do one or two straight sets of a big, basic exercise for each muscle and use lower reps. That attacks the anaerobic portion of the fast-twitch type 2As, increases neuromuscular efficiency and builds your tendons and ligaments. In short, it zeros in on adding to your strength, with a bit of residual muscle size.

If you're interested in maximum muscle size with a strength side effect, you have to train all facets of the fast-twitch fibers. You may be able to do that with one compound exercise per muscle group, but it will take more than one set, and you'll have to strategically add continuous tension, longer tension times, drop sets and other extended-set techniques, like end-of-set X-Rep partials.

A better strategy, if you have about an hour to train at least three days a week, is to use the 3D Positions-of-Flexion method with X Reps, as shown in the programs in this e-book. Those provide max-force generation and extended tension so you develop all components of the fast-twitch fibers.

Incidentally, that combination approach is the primary reason Ronnie Coleman, who started as a powerlifter, doesn't train like a powerlifter now that he's the top bodybuilder in the world. Yes, he still does basic exercises, even some low-rep sets once in a while, but he also uses contracted- and stretch-position movements for medium reps (10 to 15) to get continuous tension and longer time under tension. It takes more than single-set, low-rep work to build incredible muscle size.

Q: In the past you've said to rest one to 1.5 minutes after every set, but recently you've written that three minutes is best. That's a big difference, and it makes a tremendous impact on the weight I can use on my second set, not to mention overall workout length. Is three minutes-longer rest time worth it?

Mr. Olympia Ronnie Coleman still uses heavy low-rep sets every so often, but most of his training is geared toward building muscle— with extended tension and generating force via the size principle of fiber recruitment on sets with nine to 12 reps. (Photo is from Coleman’s “Redemption” DVD, filmed by Mitsuru Okabe).
utes the new standard? Also, do I need three minutes between different exercises? For instance, after I finish squats, should I run to the leg extension machine before the allotted rest time is up? What if someone is already using it?

A: The three-minute rest time is based on new research conducted at the University of Kansas. The study shows the correlation between optimal rest and force production in the bench press. What did those scientists find? That trainees who rested for three minutes between sets did the best at producing force on their second set—more than 30 percent better than the trainees who rested for about one minute. They also found that resting longer, even up to five minutes between sets, did not improve force production.

So, if you’re using the 3D Revised Size Surge Phase 2 Mass Program from Chapter 10, you want max force on the midrange moves and more endurance-component training on the contracted-position exercises. Stretch moves fall into the force category as well. In that case, use three minutes of rest after your big, multijoint exercises (squats, presses and so on). Use one to 1.5 minutes of rest on contracted-position exercises—such as leg extensions—where fewer fibers are involved but where hitting both the anaerobic and endurance facets of the fast-twitch fibers is still important.

With that variation you lean more toward building the anaerobic qualities of the fast-twitch fibers on multijoint exercises while still stressing the endurance facet somewhat with half-minute tension times. Then, when you move to more isolated exercises, you stress the endurance capacity more and the anaerobic capacity secondarily.

What about the rest between your big midrange exercise and your isolation move—for example, between squats and leg extensions? Try not to worry too much about it. The pattern of fiber recruitment will be different, so just unload the bar fairly quickly, go to the leg extension and work in as soon as you can.

Q: I train alone, so it seems I can’t do X Reps on a lot of exercises. For example, on squats there’s simply no way for me to power out X Reps near the bottom after I reach positive failure. The same applies to a lot of my exercises, such as dumbbell bench presses and military presses. On a lot of single-arm exercises, like biceps curls, I have to use my free arm to bring the working arm to the X-Rep position and do forced X Reps. The only solution I can think of is to do drop sets on the exercises on which I can’t do X Reps, but that would be difficult on squats or deadlifts. Supersets are out of the question, as I train at a crowded commercial gym. Any suggestions?

A: On most exercises—not squats, as I’ll explain—if you can’t do X Reps, you should do a static hold at the X Spot (max-force point), which is down near the turnaround, below the middle of the stroke. Because you’re new to X Reps, you may simply lack the neuromuscular efficiency to do them on certain exercises. Static holds done at that point should help you gain the ability to pulse. Be sure you’re using a poundage that allows about 10 standard positive/negative reps; heavier, low-rep poundages force the nervous system to crap out early and make pulsing at the X spot impossible for most people. In other words, using a weight on bench presses with which you can only get five reps means you won’t have any nervous-system firepower left for X Reps (which is one reason lower reps build strength without much size—your nervous system completely flakes out before excess fiber activation occurs, so you mostly stress tendons, ligaments and your nervous system).

You can also try the rest/pause technique. On an exercise where there is lockout, such as hack squats, rest at the top for five or more seconds after your last full
rep, and then move to the X Spot. Or try the Double-X Overload, one of the X-hybrid techniques from the e-book *Beyond X-Rep Muscle Building*. It's basically performing an X Rep after each standard rep.

Now, about free-bar squats: The X Spot is compromised by a leverage shift, so true X Reps are only possible on a Smith or hack machine, and even then they can be difficult. I've done them alone on a Smith machine, hooking the safety latches when the bar was at the low position after three or four X Reps. Once again, the poundage should be one that allows you to get at least 10 standard reps prior to firing out X Reps, or total CNS failure may prohibit end-of-set partials at the max-force point. If you choose to do a low-rep set, try a Static X at the end, squeezing hard near the turnaround.

**Q:** I read in some of your writings that you shouldn't pause between reps. But then in your review of Jay Cutler's training at your Web site you say he pauses a lot during sets. Which is right?

**A:** First let's clarify the research you mention. According to a study reported by *IM* researcher Jerry Brainum, scientists have found that the primary trigger for anabolic hormone release is stress induced by the accumulation of metabolic waste products in the muscle during exercise, and that's a result of continuous tension. In other words, muscle burn is good—and mandatory for faster mass gains.

In one study trainees did sets of 10 reps of various exercises. One group did intense sets of 10 reps, keeping tension on the target muscle, while a second group paused between the fifth and sixth reps of each 10-rep set to clear waste products from the muscle. Both groups rested only one minute between sets.

Results: The continuous-tension group (no rest during sets) showed elevations of lactic acid, growth hormone and norepinephrine, while the other group (rest during sets) didn't. The second group got zilch. Plus, only the no-rest group built more muscle, a 13 percent increase in muscle cross-sectional area! [Med Sci Sprts Exer. (2005). 35:955-63.]

Now, the pauses Cutler uses are usually at the max-force point, where there is still tension on the target muscle. He isn't resting, he's overloading that key anabolic hot spot. It's a version of the Double-X Overload technique Jonathan Lawson and I have talked about in our e-zine and in our *Beyond X-Rep Muscle Building* e-book. It's a very powerful X-spot-overload technique, especially on stretch-position exercises, which have been tied to anabolic hormone release (and in some circles, muscle fiber replication).

The lesson is to keep tension on the target muscle. There's really no reason to lock out on exercises that let the muscle rest—like squats and bench presses. And for even more anabolic overload, try double dipping at the semistretched point on a set, as Cutler does. You'll feel and see the difference almost immediately—as in more pump and muscle size.
Q: After reading your analysis of the research on continuous tension, I was wondering if you think that ultimate-exercise, nonlock, X-Rep-style workouts—one big exercise per bodypart in nonlock style with X Reps—would be the preferred way for ectomorphic hardgainers to make gains.

A: I think nonlock sets with X Reps on compound moves are a very efficient, recovery-oriented way to train. An ectomorph may do quite well with them, but it will take some experimentation to figure out recovery time.

One thing to consider, however, is that hardgainers often have low neuromuscular efficiency, which is one of the factors that make them a hardgainer in the first place. Contracted-position exercises (like leg extensions) can help increase neuromuscular efficiency quickly, as can stretch-position moves, like semi-stiff-legged deadlifts for the hamstrings. And both types of exercises have positive effects on anabolic hormones, which many hardgainers are short on as well. Of course, X Reps on the ultimate exercises help on both of those counts too, but using those more isolated movements may help you cover all the anabolic bases.

An abbreviated Split-Positions program may be a better way to go than just one exercise per bodypart. For example, you do the ultimate exercise (midrange) first for one or two sets, like Smith-machine squats done nonlock style with X Reps on one set. Then you follow with one drop set of a contracted-position exercise—leg extensions. At your next leg workout you do Smith-machine squats again as your first exercise, then follow with a drop set on a stretch-position movement—sissy squats. You can build your own Split-Positions routine from the bodypart routines in this book or The X-Rep Hybrid Mega-Mass Program on pages 67-71 in our Beyond X-Rep Muscle Building e-book is designed around that Split-Positions concept; however, you may need fewer sets and/or more days off than what’s listed because of your hardgainer status.

If you want to add muscle but simply don’t have time for those ancillary exercises, then, yes, try using only the ultimate exercise for each bodypart listed. A good place to start is The Basic Ultimate Mass routines in Chapter 11 of The Ultimate Mass Workout e-book. Those UMW routines are two-, three- and four-days-a-week programs consisting of just the ultimate exercises, one per bodypart, two sets each. Do the first set with X Reps, and do the second set as a drop set or the multi-rep rest/pause style described in Chapter 14, page 79, for extended tension. And do all of the movements in nonlock style for continuous tension on every set.

Q: My question has to do with incline and decline cable flyes. I train at home, so I don’t have cables. Do I need other exercises to work the contracted position?

A: You can use dumbbells for both the contracted and stretch positions. While dumbbells aren’t as effective as cables for contracted-position work, they can get the job done in a pinch. When you use dumbbell flyes as a contracted-position exercise, pull the dumbbells all the way to the top on each rep and push them together as you squeeze your pecs for a two-count.

When you use dumbbell flyes for stretch-position work, do only the bottom two-thirds of the stroke, which emphasizes stretch. Stop the dumbbells when they’re about two feet apart at the top so you keep tension on your pecs and move...
Q: I'm curious about what you think is better for curing overtraining: a week or two away from the gym or a week or two of low-intensity work. I find the real discipline comes in holding back during a workout. Thanks in advance for your answer.

A: I find it very difficult to stay away from the gym for a week at a time, unless I'm on vacation—and even then I sometimes hunt down a gym so I can train. So my answer would be a week or two of low-intensity training. If you have trouble keeping the intensity low, do only one or two sets per bodypart—one set per exercise—and train each bodypart only once during that week—if you have a problem holding back.

Q: I have two questions: 1) What's your opinion of periodization—changing rep ranges on all exercises every six weeks or so? and 2) Which is better, volume training or short, abbreviated high-intensity-style workouts?

A: Periodization makes a lot of sense on one level—from a recuperation standpoint—but most of the experts cite another reason to periodize: to work different fiber types. Hmm, if you use one rep range to zero in on one fiber type, won't the other fiber types shrink during their long six-week hiatus when they are not being activated? Not what a bodybuilder wants. Bodybuilders want to maximize the size of all fiber types to push muscle mass to extreme levels. That's why most of the programs in this e-book combine max force and extended tension programs—to train as many fiber types as possible and build both anaerobic and endurance components of the muscle cells. The closest I get to periodization is the F/X approach, training for max force at one workout and extended tension at the next. That attacks different fiber components; however, there is overlap. At the end of this chapter you'll also see how Jonathan and I are incorporating Eric Broser's Power/Rep Range/Shock system into our program. That varies the rep range every week, but there is also plenty of overlap, as you'll see.

As for the rest and recuperation aspect of periodization, I have my own, simpler version: I call it Phase Training. I like to ratchet down the intensity every four to six weeks before cranking it up again for another high-intensity phase. It's as if to keep gaining, you have to reach the brink of overtraining and then back off. It's the way the body's stress-response system works.

What about high-intensity workouts vs. higher-volume methods? Both will work. Bill Pearl used to train with 20 or more sets per bodypart, but he never trained to exhaustion on any set. It just didn't suit him. He got at more muscle fibers by doing set after set. Others prefer to do fewer sets and push harder—for example, past central-nervous-system exhaustion with X Reps—to hit the majority of fibers. When you do that, you have to pull back the volume.

Is one style better than the other? It depends on you—your body, preferences and personality. Bill Pearl probably wouldn't have gained much on an all-out intensity-oriented routine—because he would've hated it and quit if that was the only way. Luckily for all of us, there's more than one way to grow.

Q: I have a number of questions: 1) What muscle group(s) does the forward lunge affect and is it a stretch-, midrange- or contracted-position exercise? 2) What's the best exercise for building lower triceps mass? 3) What position of flexion does lying side laterals work? 4) What position do straight-arm pullovers cover and what muscle groups do they affect?
A: **1) Lunges.** POF protocol classifies lunges as a midrange movement for the quads, similar to leg presses and squats; however, if you use them that way, you shouldn't alternate legs, as that gives one leg too much rest while the other works. In other words, work one leg at a time, switching legs only when you finish a set, so the exercise is similar to one-leg presses. I suggest working one leg, resting for one minute, work the other leg, rest a minute and so on. That should give each leg the requisite three-minute break for max-force generation. Also, you may want to try stepping back with the nonworking leg instead of forward with the working one. That simulates one-leg squats. If you have trouble with balance, try them in a Smith machine. Theoretically, you should make better gains with one-leg exercises, as research suggests that you can activate more fibers using one limb as opposed to two. You can also classify lunges as midrange work for the hamstrings.

**2) Lower triceps.** Getting development in the triceps near the elbow is more a result of having a low insertion point, where the muscle attaches to the bone. If you have a high triceps insertion, there will be a gap between the end of your triceps and the elbow. That's genetic and can't be altered by training—like high calves. Whatever your genetic predisposition, you want to develop the muscle fully and completely, which means you should work it in its midrange, stretch and contracted positions. For example, you could do decline extensions (midrange), overhead extensions (stretch) and kickbacks (contracted). That's a classic 3D POF triceps program.

**3) Lying laterals.** Lying laterals, or one-arm incline laterals, are classified as a stretch-position exercise for the medial-delt heads; however, you have to raise the dumbbell on a plane that's parallel to your body. In other words, you need to raise the weight close to your body. If you raise the dumbbell out to the front, away from your torso, you tend to work more of the rear delt and trapezius.

**4) Pullovers.** Straight-arm pullovers are classified as a stretch-position exercise for the lats; however, they also work your upper chest and your serratus, those slashing muscles on the sides of your torso.

Q: **Can deep squats help strengthen and add mass to the hamstrings?**

A: Deep squats can help develop the hamstrings somewhat; however, feet-forward Smith machine squats have been shown to hit the hamstrings much better than regular free-bar squats. That's what EMG analysis shows. That's why I revised POF protocol to include feet-forward Smith-machine squats or feet-forward hack squats as midrange movements for the hamstrings. For those who don't have problems with hamstring development, relying on squats and semi-stiff-legged deadlifts as midrange work for hams is fine; however, for people who need extra hamstring attention, a few sets of feet-forward Smith-machine squats before semi-stiff-legged deadlifts (stretch) and leg curls (contracted) will help remedy the problem. It's a great transition move from quads to hamstrings—and the exercise will no doubt help improve your quad development as well.
Q: The drop-set concept you recommend works! I’ve already put on about 10 pounds of muscle in two months. My question is, How do I do drop sets on dips and chins? I only use 20 pounds on those exercises, and that’s not a big enough poundage reduction to allow me to get more reps on a subsequent drop set.

A: You could strip off your clothes and shoes to lighten the load, but most of the other gym members probably wouldn’t appreciate it. Seriously, try using a similar exercise for your drop set. In other words, make it a superset instead. For example, after you fail on dips, do pushups—that is, if you’re working chest. If you’re using dips for triceps, go to bench dips when you hit failure. For bench dips you set two flat benches parallel to each other a few feet apart. Position yourself face up, hands on the edge of one—behind your back—and heels on the edge of the other. Now dip. Bench dips are much easier than bar dips, so you should be able to knock out at least eight to 10 immediately after your weighted dips.

As for chins, go to pulldowns when you hit failure. If you don’t have a pulldown machine, you can do undergrip barbell rows. Those actually work very well with chins because the undergrip rows train the lats in their contracted position, while chinning with an overhand grip is midrange work for the lats. You’ll feel a searing burn in your lats during undergrip rows, guaranteed.

If you don’t like any of those suggestions, or you train in a crowded commercial gym where supersets are impossible, try multi-rep rest/pause. The two most popular methods are ROB and DC training (see page 79).

Q: I saw your before and after photos and Jonathan Lawson’s at www.X-Rep.com. It’s hard for me to believe you’re both natural. Most of the guys at my gym who look good, but aren’t to your level yet, take steroids. I have to believe that you both use something. The average guy just can’t get a killer physique without some “help,” and it seems impossible for hardgainers who have structures similar to what you started out with.

A: I’ll take that as a compliment, especially considering my hardgainer status. It’s taken a lot of years of learning what works for me—and I’m still learning and trying new things. Patience, experimentation and persistence have paid off, although like any bodybuilder, I’m not satisfied. I know I can get better—even with my piss-poor genetics—which keeps me training hard.

To be honest, I did try Dianabol back in my early 20s—more than 25 years ago. I decided to try two tablets a day, 10 milligrams, but I could only handle the guilt for about two weeks. I dumped the rest of the pills in the garbage because I felt as though I was cheating, not to mention damaging my health (I’ve always been a health nut). That’s the only time I touched steroids.

As for Jonathan, he’s drug-free for life. He has good genetics—better than mine anyway, that’s for sure—and he works damn hard and damn smart. By training each bodypart through its full range with 3D POF and adding X Reps, he’s created a great physique without pharmaceuticals. He’s very good about experimenting in the gym and learning what works for him.

Both of us are totally committed to doing it without drugs. It’s harder, it takes more intelligent training, but that’s what makes it so much more rewarding than taking the easy way. We’re learning how our bodies respond to a variety of training stimuli. With drugs your body responds to just about any training, so you don’t really learn what works for your specific body type and fiber makeup.

I’ve heard guys whining about how they just can’t make any more size gains and that taking steroids is their only alternative. That’s not true in most cases. Have they really tried every mode of training—drop sets, supersets, X Reps, X-hybrid
techniques and so on? The choices are endless, but so many don’t have the patience or will to work hard and try different things. They’d rather go the quick-fix route, even if it shrinks their nuts and causes golf-ball-size boils on their backs.

I’d rather build natural muscle, even if it takes twice as long, so I learn what it takes to get it and I can keep it without sticking myself in the ass every few days. It just doesn’t make sense to risk my health for temporary muscle size.

I say all of that with no disrespect to those who choose to use. I feel it’s a personal decision, and if you’re willing to take the risk, hey, it’s your body. Just go into it informed so you know how to deal with the side effects, including the mental anguish. Read as much as you can about the side effects and how to use as safely as possible before you take the plunge.

Q: I’m about 5’10, 190 pounds. If I want to be a proportional bodybuilder what should my measurements be ?

A: When I think of symmetry and proportion, I think of Steve Reeves, so let’s go to his book Building the Classic Physique the Natural Way for his answer.

Reeves gives the following percentages for Classic Physique Proportions:

• arm size, 252 percent of wrist size
• calf size, 192 percent of ankle size
• neck size, 148 percent of pelvis size
• waist size, 86 percent of pelvis size
• thigh size, 175 percent of knee size

For example, if you have a seven-inch wrist, multiply seven times 2.52 and you get 17.64: Your arms should be about 17 1/2 inches.

As for bodyweight, Reeves has a very interesting chart that has Classic Physique Weight for each height measurement. You’re 5’10”, and the chart says you should weigh 185 pounds—that’s 185 hard pounds, no love handles and visible abs, even standing relaxed. I’m sure you know a lot of guys who are 5’10”, 185 with waists that are about 1 1/2 times their chest measurement. I don’t think that’s what Reeves considers classic proportions.

The chart has a 5’11” man weighing 190, 6’ weighing 200 and so on adding 10 pounds for every additional inch. Going in the other direction from 5’11”, you subtract five pounds for every inch. For example, a 5’10” man should weigh 185, a 5’9” man should weigh 180 and so on.

No doubt Reeves based these proportions on his own physique, but I don’t have a problem with that. He was truly one of the most symmetrical bodybuilders of all time. He lists his top form measurements as the following: height, 6’1”; weight, 215 pounds; neck, 18 1/4 inches; chest, 52 inches; waist, 29 inches; hips, 38 inches; upper arm, 18 1/4 inches; forearm, 14 3/4 inches; wrist, 7 1/4 inches; thigh, 26 inches; calf, 18 1/4 inches; ankle, 9 1/4 inches.


Q: I’ve heard about a bodybuilder who gained 60 pounds of muscle in only one month. Is that true, and, if so, how did he do it?

A: You’re talking about Casey Viator, who gained a whopping 63 pounds of muscle in a mere four weeks in 1973 during what’s known as the Colorado Experi-
ment at Colorado State University. He made that tremendous gain while training on a high-intensity routine three days per week. Granted, Casey wasn't starting from scratch. He was regaining muscle weight that he'd had during his competitive bodybuilding days, a few years before this experiment, and he was one of the most genetically gifted physique athletes ever to grace a posing dais. Nevertheless, it was a phenomenal achievement and should open your eyes to the fact that putting on 10 pounds of muscle, or more, in a mere 10 weeks isn't so impossible after all.

The man who conducted the experiment was Arthur Jones, the creator of Nautilus machines. Here are his comments on what transpired:

“During the winter of 1972-'73, Casey Viator, an advanced bodybuilder who I had been training for several years, and the youngest person to ever win the Mr. America contest (at 19 years of age in 1971) was injured in an industrial accident, lost a finger and then almost died as a result of an allergic reaction to a tetanus injection; under the circumstances he had to stop training for several months, so he reduced his intake of food in order to avoid getting fat while out of training, and he lost both muscular size and strength but remained quite lean.

“So I saw this as an opportunity to demonstrate just what could be done with a very brief exercise program, made arrangements with the Department of Physiology of Colorado State University, in Fort Collins, and went there for this research (really much more in the way of a ‘demonstration’ than ‘research’ because I had a pretty good idea about just what the results would be), and this program was started on May 1, 1973, and continued for a period of only four weeks, 28 days, until May 29, 1973.

“Results?

“According to the tests conducted by Dr. Elliot Plese and other doctors at the university, Viator gained more than 45 pounds of bodyweight while losing about 19 pounds of fat, which means that his gain in muscular mass was more than 60 pounds. Results that were produced by only 12 [high-intensity] workouts with an average length of less than 30 minutes.”

Most of the exercises Casey used were performed on Nautilus prototype machines, one set to failure. Here's the program:

60 Pounds of muscle in four weeks. Casey Viator's before and after photos from the Colorado Experiment in 1973. Phase 1 of the 10-Week Size Surge program was constructed along the same lines as Viator's program, but with as few machines as possible so bodybuilders training at home could use it to pack on mass. Viator used mostly Nautilus machines.
1) Leg extensions
2) Hip-and-back machine
3) Duo squat machine
4) Leg curls
5) Pullover machine
6) Behind-the-neck pulldowns
7) Double shoulder machine
8) Rowing machine
9) Double chest machine
10) Biceps curls
11) Triceps extensions
12) Dips

More recently (2006), an advanced drug-free bodybuilder named Mike Semanoff packed on 20 pounds of muscle in two months. That’s almost equally as impressive because he wasn’t recovering from illness or starved down. He was in bodybuilding condition and decided to experiment with X Reps to see how much weight he could put on in two months. Here are his comments:

“I have been training for a long time, so I knew that I had to do something drastically different if I was going to attain dramatic gains. First I started doing some research on the relationship between testosterone and growth hormone. Through my research I found that these hormone levels in my body are almost directly proportional to the intensity level of my workout. So I knew that if I could keep my intensity maxed out for 45 minutes to an hour, I would be maximizing a key element to my body’s natural growth mechanism.

“Second I had to provide my muscles with a totally unique stimulus to really kick-start growth. I found my answer when I started reading about X Reps in IRON MAN and at X-Rep.com. I was very intrigued by this concept and started thinking of how I would incorporate these end-of-set power partials into my workout. The whole concept of attacking the semistretched point of the muscle really opened up a whole new world of training potential. The fun thing about X Reps is the creativity I could use within my workout to really hit the max-force point and overload the target muscle.

“One I got the hang of X Reps, I started adding poundage fast and incorporating the technique on almost every set. Like clockwork the gains just kept coming.”

Along with X Reps Mike incorporated a lot of supersets in his training, which helped synergize with X Reps for anabolic hormone surges. You can get a lot of those same benefits with the concepts and routines outlined in this book.

**Q: I need a solid mass-building diet to follow. Can you outline one?**

**A:** Diet is very specific to the individual. Metabolisms vary significantly; however, here’s one I recommend, but you may need to adjust it to fit your specific needs and calorie expenditure.
3D Muscle Building Fast Mass Diet

**Meal 1**
Milk (2% butterfat), 8 ounces  
Oatmeal, 8 ounces  
Egg whites, 2 (stirred into oatmeal)  
Dates or raisins, 1/4 cup (about 5 whole dates)  
Supplements: vitamin-and-mineral tablet

**Meal 2**
Whey-and-casein meal replacement, such as  
Muscle-Link's Muscle Meals

**Meal 3**
Roasted chicken, 6 ounces  
Broccoli or other green vegetable, 6 ounces  
Brown rice, 1 cup  
Sherbet, 2 scoops, or fruit cocktail, 1 cup

**Meal 4**
Cottage cheese, 6 ounces  
Pears (canned in own juice), 4 halves

**Meal 5**
Peanut butter and jelly sandwich on whole-wheat bread  
Milk (2% butterfat), 8 ounces

**30 minutes before training**
Optional specialty supplements: Muscle-Link's CreaSol  
(titrated creatine) and Ribose Size

**Meal 6 (right after training)**
Whey protein in fruit juice or Muscle-Link's Recover-X plus CreaSol (X Stack)  
Optional specialty supplements: Muscle-Link's  
Cort-Bloc (P.S., a cortisol-control compound)

**Meal 7**
Tuna sandwich on whole-wheat bread  
(tuna packed in water)  
Apple  
Peanuts (handful)

**Before bed**
Supplements: antioxidants (C, 500 milligrams;  
E, 500 international units; and  
beta-carotene, 20,000 international units)  
Optional specialty supplements: Cort-Bloc (P.S.)

For most trainees this would be considered a mass-gaining diet, as it contains about 3,000 calories—30 percent protein, 25 percent fat and 45 percent carbs. However, that may not be enough for hardgainers. For those who have a difficult time putting on weight, I'd suggest adding a protein drink before bed to that diet—and make sure it's got a mix of both casein and whey proteins, as casein is slow digesting. For more information on a lot of the supplements listed, and others, see the Supplement Blog at www.X-Rep.com.
Q: I've read all of your e-books and—Wow!—I'm blown away. They opened my eyes to so many things I've been puzzled about, like why the big guys cheat with explosive reps and grow so much because of it. Your explanation of how [that style of training] hammers the max-force point of the exercise makes total sense. And so did your discussions on blocking blood flow and how they use it on isolation exercises for pump. My question is, Does overloading the max-force point of an exercise create a different type of growth from what you get by blocking blood flow?

A: If you've gotten this far in this e-book, you know the answer. Overloading the max-force-generation point of an exercise appears to provide unique fast-twitch-fiber activation, while occlusion can do things like pump up fluid volume, increase capillary beds and develop the mitochondria—many separate layers of growth.

It appears that the champs get big by maximizing a number of growth factors, or layers, which is what we try to get across in all of our e-books, this one included. I explained that adding X Reps, or power partials, to the ends of sets of certain exercises is a much more efficient means of attaining mass than simply doing set after set on multiple exercises.

For example, by adding X Reps to incline presses, you take the pecs past failure at the key max-force-generation point, getting much more fast-twitch-fiber activation than if you stop at positive failure. It's the best way to move past nervous system exhaustion and fatigue to get more fast-twitch fiber action. You also create some postfailure occlusion with X Reps because partial pulses keep tension on the target muscle. You can almost feel the blood being squeezed out with each pulsing action.

In addition, you also get some stretch overload with X Reps, which may have a connection to hyperplasia, or muscle-fiber splitting. Remember, you do X Reps at a semistretched point, so they severely stress the muscle when it's in a somewhat elongated state.

Our champ-training analysis also solidifies the 3D Positions-of-Flexion muscle-building method—working a muscle with midrange-, stretch- and contracted-position exercises. You can trigger the most fiber activation with compound, or midrange, exercises like incline presses, especially when you add X Reps to the end of a set. Then you can get the best occlusion effects with continuous-tension contracted-position exercises, like cable flyes. Add X Reps to those, and you increase occlusion time and its size- and strength-building effects. Finally, you can use stretch-position exercises for even more force production, dormant-fiber activation (thanks to the myotatic reflex, an emergency response triggered by full stretch against resistance) and perhaps more fiber-splitting action (remember, one animal study got a 300 percent muscle-mass increase after only one month of stretch overload).

The programs in this e-book are the latest mass-building innovations that take all of the above into account. I'm not saying we've found the answer, although 3D POF plus X Reps may work mass-building miracles for a number of bodybuilders. Some of the remaining question marks still revolve around recovery. In fact, as I complete this e-book, Jonathan and I are just beginning to experiment with training each bodypart only once a week, which has never worked for us in the past. What makes us think it will work now? For one thing, we've honed our neuromuscular systems with X Reps and have the learned ability to make any set much more intense.

We've said that X Reps can make any set two to five times more powerful than a conventional set, so if we do five sets per bodypart, as dictated by 3D Positions-of-Flexion mass-training protocol, and we end three of those sets with X Reps or use an X-hybrid technique, by our estimation that's like doing anywhere from eight to 15 conventional sets. Theoretically that dictates the need for more recovery time between bodypart hits. Will it require a full seven days of recovery? That's what we aim to find out!

A number of drug-free bodybuilders have found that to be the case as they got
more advanced. Dave Goodin is a very successful natural pro bodybuilder—he’s the ’97 Pro Natural Mr. Universe. He’s 47 and only trains four days a week precontest (three days a week in the off-season), hitting each bodypart once every seven days. He says that style of training helped him pack on 20 pounds of muscle after age 35 and become a much more successful competitor!

Then there’s Skip La Cour, who goes hard and heavy at every workout, using six or so work sets per bodypart. He also adheres to the one-workout-per-bodypart-per-week strategy—and used that split to win five Team Universe titles. John Hansen, Mr. Natural Olympia and IM columnist, also trains in that manner.

When we’ve tried that style of training in the past, we always felt the muscles start to atrophy, or detrain, before they were trained again. A few years ago we even tried incorporating heavy negatives to overstress the target muscle in hopes of forcing the need for seven days of recovery time—negatives are supposed to severely damage muscle tissue. Results? No size increase, very small strength blips.

But now we’ve been using X Reps for two years, and because of that we’ve developed heightened neuromuscular efficiency, and, we think, the ability to blast the target muscle into submission much more effectively. Also, we’re both older (Steve is 47, Jonathan is moving into his mid-30s), so dwindling hormone levels, especially in Steve’s case, may require more recovery time.

We’ve also found a lot of size-building potential in Eric Broser’s Power/Rep Range/Shock mass-training protocol. Basically you have three different workouts for each bodypart. The first week you train for power with lower reps—what we’re calling max force. The second week you train the muscle over three rep ranges: 7-9, 10-12 and 13-15. The third week you shock the muscle with supersets, multi-rep rest/pause, drop sets or whatever intensity technique you deem necessary to annihilate the target muscle. So you get a better understanding, here are sample programs from Broser’s P/RR/S workout arsenal:

**Hamstrings—Power**

**Rep Goal:** 4-6

- Leg curls, 3 x 4-6
- Stiff-legged deadlifts, 3 x 4-6
- Single-leg leg curls, 2-3 x 4-6

**Triceps—Rep Range**

**Rep Goal:** 7-9, 10-12, 13-15

- Smith-machine close-grip bench presses, 3 x 7-9
- Lying extensions, 3 x 10-12
- Dumbbell kickbacks, 2 x 13-15

**Deltsh—Shock**

**Rep Goal:** 8-10

Superset
- Seated lateral raises, 2 x 8-10
- Behind-the-neck pressses, 2 x 8-10

Superset
- Wide-grip cable upright rows, 2 x 8-10
- Bent-over laterals, 2 x 8-10
- Barbell front raises (drop set), 1 x 8-10(6-8)

The rationale behind this is scientifically sound. As Broser says, “Power/Rep Range/Shock is a cyclical approach to training in which you use a unique protocol every week, with various protocols collectively tapping into all of your body’s mechanisms for growth.

“I first developed the system when I noticed a pattern developing. Myself, and
all of my clients began to show dramatic and rapid gains in size by making very
frequent changes in our training programs. I began to realize that getting bigger
was not simply a function of adding weight to the bar or getting another rep with
the same weight. While progressive overload is something that works very well in
the beginning stages of training, the body needs to be presented with more than
just increased poundage as one continues on with training. The human body is
an adaptive machine. Thus, if you do not force your muscles and CNS to deal with
unique stressors rather frequently, then you are bound to stagnate. P/RR/S was
designed not to let this happen.”

Does it work? Broser used it along the way as he took his 5’11” frame from 125
pounds to its current muscular weight of 245—drug free. And, as he said, he’s been
using it on many of his clients with spectacular results:

“My clients have all made remarkable progress with P/RR/S. Many of them
have broken size and strength plateaus that they were sitting at for years. One of
my clients recently told me that after just two months of using P/RR/S, he had
gained more muscle than in the previous two years! I regularly have clients gain
five to 10 pounds of muscle in three three-week cycles using the method, while
making no other changes to their program.”

All of that has convinced us to give Broser’s P/RR/S training theories a test run,
with our own 3D POF X-Rep spin, of course. Here’s our new program, training
each bodypart once a week on a four-day split...

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### Monday, Week 1: X-Rep Power Program
**Chest, Calves, Abs**

<table>
<thead>
<tr>
<th>Exercise</th>
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<tbody>
<tr>
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<td>Incline flyes (X Reps), 1 x 6</td>
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<tr>
<td>High cable flyes (X Reps), 2 x 6</td>
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<td>Bench presses (X Reps), 2 x 4-6</td>
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<td>Wide-grip dips (X Reps), 1 x 6</td>
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<td>Flat flyes (X Reps), 1 x 6</td>
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<td>Seated calf raises (X Reps), 2 x 6-8</td>
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<td>Incline kneeups (X Reps), 3 x 6-8</td>
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<td>Ab Bench crunches (X Reps), 2 x 6-10</td>
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<td>Full-range bench crunches (X Reps), 2 x 8-10</td>
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**Tuesday, Week 1: X-Rep Power Program**  
**Back, Forearms**

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<td>Machine pullovers (X Reps), 2 x 4-6</td>
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<tr>
<td>Behind-the-neck pulldowns* (X Reps), 1 x 6-8</td>
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<tr>
<td>Nautilus rows or cable rows (X Reps)*, 3 x 4-6</td>
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<tr>
<td>One-arm dumbbell rows (X Reps), 1 x 4-6</td>
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<tr>
<td>Bent-arm bent-over laterals, (X Reps), 2 x 4-6</td>
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<td>Barbell shrugs (X Reps), 2 x 4-6</td>
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Thursday, Week 1: X-Rep Power Program
Quads, Hamstrings, Lower Back

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<td>squats (X Reps), 2 x 4-6</td>
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<td>Lunges, 1 x 4-6</td>
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<td>Rack stiff-legged deadlifts</td>
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<td>(low partials; X Reps), 3 x 6-8</td>
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<tr>
<td>Hyperextensions (X Reps), 1 x 6-8</td>
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<tr>
<td>Leg curls (X Reps), 3 x 4-6</td>
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### Friday, Week 1: X-Rep Power Program

**Delts, Triceps, Biceps**

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### Week 1 (Power) Notes

- Exercises that are somewhat dangerous or that have potential for joint injury, we move the reps slightly higher—6-8. Examples include leg extensions, rack stiff-legged deadlifts and behind-the-neck pulldowns. On a lot of stretch-position exercises we won’t go below six reps, as the max elongation is a dangerous position.

- Endurance-oriented muscles get slightly higher reps, including abdominals, calves and forearms.

- Because of neuromuscular short-circuiting and/or fatigue caused by low reps, X-Rep partials may not be possible at the end of a set of some exercises. If that is the case, we do a static hold instead of pulsing movement. For a Static X, hold the weight near the turnaround, the X Spot, for as long as possible.
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**Tuesday, Week 2: X-Rep Rep-Range Program**  
**Back, Forearms**

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Quads, Hamstrings, Lower Back

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### Friday, Week 2: X-Rep Rep Range Program
#### Delts, Triceps, Biceps

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**Week 2 (Rep Range) Notes**

- For some bodyparts we start with two midrange exercises, two sets each. For example, for delts we do two sets of rack pulls, then two sets of dumbbell upright rows. We keep the reps in the lower range for both.

- Brosor’s Rep Range protocol works nicely with the 3D POF mass-building concept. You do the midrange-position exercise in the 7-9 rep range, the stretch-position exercise in the 10-12 rep range and the contracted-position movement in the 13-15 rep range. That hits both max force (midrange) and extended tension (contracted), with stretch overload a combination of both max force and extended tension—an excellent way to attack 3D POF!

- If we do only one exercise for a bodypart, such as bent-over laterals for rear delts or cable hammer curls for brachialis, we do the middle rep range (10-12), which provides some max force and extended tension.
### Monday, Week 3: X-Rep Shock Program
**Chest, Calves, Abs**

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<tr>
<td>Incline presses* (X Reps), 2 x 8-10</td>
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<td>High cable flyes (X Reps), 2 x 8-10</td>
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<tr>
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<td>Wide-grip dips (drop; X Reps), 1 x 8(6)</td>
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<td>Flat flyes (X Reps), 1 x 8-10</td>
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<td><strong>Superset</strong></td>
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<td></td>
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<tr>
<td>Machine donkey calf raises (X Reps), 2 x 10-12</td>
<td></td>
</tr>
<tr>
<td><strong>Superset</strong></td>
<td></td>
</tr>
<tr>
<td>Hack-machine calf raises (X Reps), 2 x 10-12</td>
<td></td>
</tr>
<tr>
<td>Standing calf raises (X Reps), 2 x 10-12</td>
<td></td>
</tr>
<tr>
<td>Seated calf raises (drop; X Reps), 2 x 12(8)</td>
<td></td>
</tr>
<tr>
<td><strong>Superset</strong></td>
<td></td>
</tr>
<tr>
<td>Incline kneeups (drop; X Reps), 1 x 10(6)</td>
<td></td>
</tr>
<tr>
<td>Flat-bench leg raises (X Reps), 1 x 10-12</td>
<td></td>
</tr>
<tr>
<td><strong>Tri-set</strong></td>
<td></td>
</tr>
<tr>
<td>Ab Bench crunches (X Reps), 1 x 10-12</td>
<td></td>
</tr>
<tr>
<td>Full-range bench crunches (X Reps), 1 x 10-12</td>
<td></td>
</tr>
<tr>
<td>End-of-bench kneeups (X Reps), 1 x 8-10</td>
<td></td>
</tr>
</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.*

X Reps = End-of-set partials or static hold near turnaround on last set only; on exercises not included in a superset, we often do multi-rep rest/pause—set, rest 10 seconds, set, rest 10 seconds, set.
## Tuesday, Week 3: X-Rep Shock Program

**Back, Forearms**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Wide-grip pulldowns* (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Machine pullovers (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Parallel-grip chins (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Undergrip pulldowns (drop; X Reps), 1 x 8(5)</td>
<td></td>
</tr>
<tr>
<td><strong>Behind-the-neck</strong></td>
<td></td>
</tr>
<tr>
<td>pulldowns* (drop; X Reps), 1 x 8(5)</td>
<td></td>
</tr>
<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Nautilus rows or cable rows (X Reps)*, 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Bent-arm bent-over laterals, (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>One-arm dumbbell rows (X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Barbell shrugs (X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Dumbbell shrugs (X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Reverse wrist curls (X Reps), 2 x 10-12</td>
<td></td>
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<tr>
<td>Forearm Bar reverse</td>
<td></td>
</tr>
<tr>
<td>wrist curls (X Reps), 2 x 8-10</td>
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<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Wrist curls (X Reps), 2 x 10-12</td>
<td></td>
</tr>
<tr>
<td>Forearm Bar wrist curls (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Rockers (drop), 1 x 12(8)</td>
<td></td>
</tr>
</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

X Reps = End-of-set partials or static hold near turnaround on last set only; on exercises not included in a superset, we often do multi-rep rest/pause—set, rest 10 seconds, set, rest 10 seconds, set.
Thursday, Week 3: X-Rep Shock Program
Quads, Hamstrings, Lower Back

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Superset</strong></td>
<td></td>
</tr>
<tr>
<td>Machine hack squats</td>
<td></td>
</tr>
<tr>
<td>(nonlock; X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Leg extensions (X Reps), 2 x 8-10</td>
<td></td>
</tr>
<tr>
<td><strong>Superset</strong></td>
<td></td>
</tr>
<tr>
<td>Leg extensions (X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Leg presses (nonlock), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Leg presses (nonlock; X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Smith-machine sissy squats</td>
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<tr>
<td>(drop; X Reps), 1 x 8(5)</td>
<td></td>
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<tr>
<td>Lunges (one leg at a time), 1 x 8-10</td>
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<tr>
<td><strong>Superset</strong></td>
<td></td>
</tr>
<tr>
<td>Semi-stiff-legged deadlifts</td>
<td></td>
</tr>
<tr>
<td>(low partials; X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Leg curls (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Hyperextensions (X Reps), 1 x 8-10</td>
<td></td>
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<tr>
<td>Leg curls (X Reps), 1 x 8-10</td>
<td></td>
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<tr>
<td>Low-back machine (X Reps), 1 x 8-10</td>
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</tr>
</tbody>
</table>

*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets.

X Reps = End-of-set partials or static hold near turnaround on last set only; on exercises not included in a superset, we often do multi-rep rest/pause—set, rest 10 seconds, set, rest 10 seconds, set.
**Friday, Week 3: X-Rep Shock Program**  
**Dels, Triceps, Biceps**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Poundage x Reps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superset</td>
<td></td>
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<tr>
<td>Rack pulls (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Forward-lean laterals (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Dumbbell upright rows (drop; X Reps), 1 x 8(6)</td>
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<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Incline one-arm laterals (X Reps), 1 x 8-10</td>
<td></td>
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<tr>
<td>One-arm cable laterals (X Reps), 1 x 8-10</td>
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<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Behind-the-neck presses (X Reps), 1 x 8-10</td>
<td></td>
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<tr>
<td>Dumbbell presses (X Reps), 1 x 8-10</td>
<td></td>
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<tr>
<td>Bent-over laterals (drop; X Reps), 2 x 8(6)</td>
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<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Dips (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Pushdowns or kickbacks (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Decline extensions, 1 x 7-9</td>
<td></td>
</tr>
<tr>
<td>Overhead extensions (drop; X Reps), 2 x 8(6)</td>
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</tr>
<tr>
<td>Superset</td>
<td></td>
</tr>
<tr>
<td>Cable or dumbbell curls (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Preacher curls (X Reps), 2 x 8-10</td>
<td></td>
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<tr>
<td>Concentration curls or one-arm</td>
<td></td>
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<tr>
<td>dumbbell spider curls (drop; X Reps), 2 x 8(6)</td>
<td></td>
</tr>
<tr>
<td>Incline curls (X Reps), 1 x 8-10</td>
<td></td>
</tr>
<tr>
<td>Cable hammer curls (X Reps), 1 x 8-10</td>
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</tbody>
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*Do one to two light warmup sets with about 50 percent of your work weight on the first and 80 percent on the second prior to your two work sets. X Reps = End-of-set partials or static hold near turnaround on last set only; on exercises not included in a superset, we often do multi-rep rest/pause—set, rest 10 seconds, set, rest 10 seconds, set.*
**Week 3 (Shock) Notes**

- Broser begins many of his bodypart routines on Shock week with a pre-exhaustion superset—an isolation/contracted-position exercise first followed immediately by a compound/midrange movement (for example, lateral raises followed by behind-the-neck presses). Studies show that pre-ex significantly reduces force production on the second exercise, which is the most important—midrange moves are the big mass builders. Therefore, we choose to use postactivation, switching the order. We do the midrange-position exercise first in the superset, and then follow immediately with a contracted-position movement. That tactic has been shown to actually increase force production on the big exercise on the second superset because of heightened neuromuscular activation.

- On lone exercises, those not included in a superset, we often do them in multi-rep rest/pause style (a combination of DC and ROB). We do a set to exhaustion, rest 10 seconds, do a second set to exhaustion, rest 10 seconds, then do a third and final set to exhaustion, often with X Reps. Or we may do a standard drop set.

Note: You can follow along with the changes we make by reading our daily training blog: [http://www.x-rep.com/xblog.htm](http://www.x-rep.com/xblog.htm).

The bodypart split we’re using gives us only two workouts in a row before a rest day and minimizes overlap. Yes, arms get hit on Friday after being trained indirectly on Monday, triceps with chest, and Tuesday, biceps with back, but there are a lot of days between those workouts—and two days completely off after the Friday session.

Now, if we start getting smaller and/or weaker, we may redo our training split to allow for indirect work (for example, quads and hams on different days and lats and midback on different days). Good templates for that type of split are the Direct/Indirect programs in *The Ultimate Mass Workout* e-book. That’s our backup plan for our P/RR/S beta-test.

We’re excited to give the one-workout-per-bodypart-per-week split a retry, combining Power/Rep Range/Shock, 3D POF and specific X-Rep techniques we’ve found most effective, as well as max-force and continuous-tension tactics like drop sets and multi-rep rest/pause. Will all of that add up to bigger and better physiques for both of us? We’re optimistic. Let the experiment begin!
If you don't consider yourself very advanced as far as bodybuilding goes and you just want a time-tested program that will build muscle fast, use the classic 10-Week Size Surge approach (after all, it added 20 pounds of muscle to Jonathan's physique in a little over two months!). It's worked for lots of trainees who stuck with it. Here's the drill...

**Weeks 1-5:** Use Jonathan's Phase 1 routine listed in Chapter 2 or, if you're more advanced, the F/X version in Chapter 14. No matter which program you choose to use as your basic-exercise Phase 1 program, stop short of failure on every exercise the first week. After that, go all out on all your work sets.

**Weeks 6-10:** Move to Phase 2 with the 3D POF Revised Size Surge Mass Program listed in Chapter 10 or, if you're more advanced, the X-Rep version in Chapter 13. Once again, use the first week as a breakin, stopping all sets short of failure. Then pull out all the stops and shoot for building the most muscle mass possible! If you experiment with X Reps, don't get carried away, as it's a very powerful technique.

Or, if you're in the advanced category and more daring, try training each bodypart once a week with our latest experimental routine listed in this chapter. No promises with that one, however, as we're just beginning our beta-test period with it ourselves.

If you want more information on X Reps and X-hybrid techniques, more motivation or you need more programs to add to your mass-building arsenal, the e-books on the next page are loaded with muscle-building stuff that can help you take your physique to new muscular heights.

If you have questions you can e-mail me (xrepsht@aol.com) or Jonathan (xrepjdl@aol.com) or contact us via our Web site, www.X-Rep.com. See you in the gym!
Other Muscle-Building E-books

**The Ultimate Mass Workout, featuring X-Rep Training.** Here it is: The original X-Rep manual. You may think you’ve tried it all to build muscle, but until you ignite the anabolic fuse with The Ultimate Mass Workout and X Reps, you haven’t experienced explosive growth. This program maximizes all the elements your body requires for an extreme hypertrophic response—the single best exercise for each muscle, precision workouts, neuromuscular target training, capillary-expansion tactics, anabolic hormone activation and maximum muscle fiber-recruitment techniques. It’s all here, waiting for you to light the fuse and create your own ultimate muscle-size-and-strength X-plosion.

**Beyond X-Rep Muscle Building.** If you understand and have experienced the muscle-building power of X Reps, it’s time to accelerate your mass gains with Beyond-X hybrid tactics, including X-centric training, Fade X, Double-X Overload and X/Pause. Contains our complete Ripping Phase program that got our physiques bigger and better than the gains we made during our original X-Rep experiment. Plus, you can check out the new X-Rep-Hybrid Mega-Mass Program.

**X-treme Lean Fat-Burning and Nutrition Guide.** Nothing grabs attention like a shredded physique. If you’re ready to shed your excess bodyfat and build some muscle at the same time, then this is your answer. It’s time to stop talking about it and start working on it. You want those etched abs? We’ll give you the diet info to let ’em rip! Includes the amazing X-treme Lean High-Definition full-body Workout that features X Reps and the occlusion phenomenon to build muscle as you burn fat. Ready to kick-start the fat-burning machine? You’re going to get X-treme Lean!
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