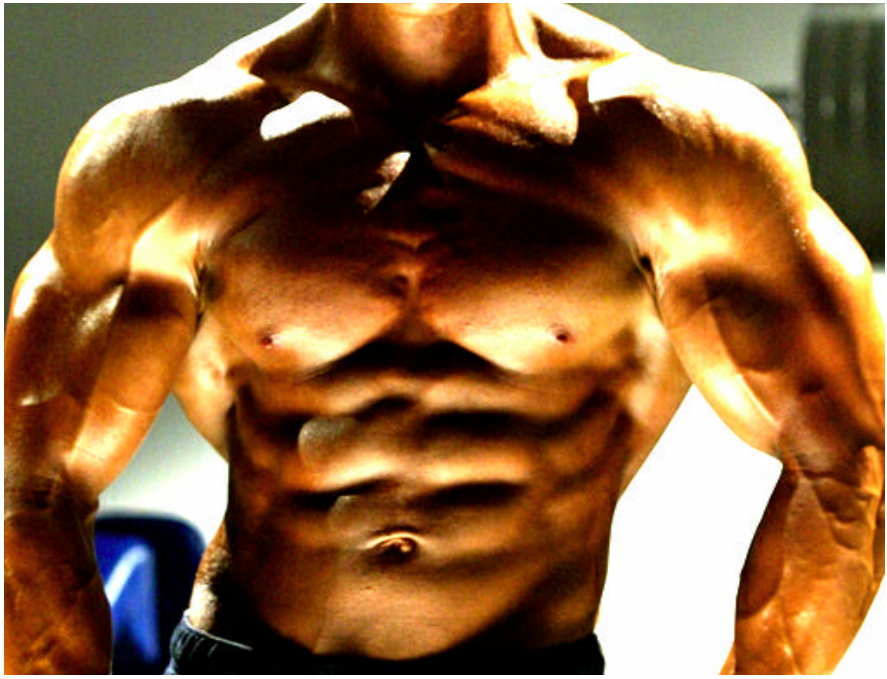
IRON MAN Training & Research Center Presents

The Ultimate MASS WORKOUT



Featuring the X-Rep Muscle-Building Method

by Steve Holman and Jonathan Lawson

The Ultimate Mass Workout 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.

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Introduction

You want it, and so does almost every other male on the planet: a body packed with more muscle—chiseled mass that turns heads and grabs people's attention by the throat, making their eyes bulge with disbelief and admiration. But who has the time? Sure, it would be incredible to have an eye-popping physique, but two-hour workouts are out of the question for anyone who can't pitch a tent in the gym parking lot. Does that mean building impressive muscle is fantasy? Absolutely not! A chiseled body doesn't have to be a fleeting dream because it doesn't take two-hour workouts, six days a week—if you know how to train with zero wasted effort.

Don't look around the gym for efficient workouts, however, because it's truly a lost art. Look around and you'll see people heaving and throwing weights, making wrong exercise choices (side bends can make your waist wider, folks!), training for hours and making little or no gains year after year after year. In our estimation, most trainees could be making two to three times their current progress—and in half the time! The reason for all the wasted effort is lack of knowledge—or at least lack of rational thought when it comes to the workout. Most trainees haven't learned enough about each muscle's function, fiber activation and how the body copes with stress. Because of that it's impossible for them to put together a program that provides maximum results in minimum time.

Maximum results in minimum time is what we specialize in at the *IRON MAN* Training & Research Center. For more than a decade, we've observed and tried a lot of programs. Hardgainer bodies have been taken off no-results programs and packed with respectable muscle, thanks to innovative tactics and programs created at the ITRC. Many of those trainees used versions of Positions of Flexion, our dominant muscle-training protocol. But this book isn't a POF refresher course. It contains an immense amount of new information that we've recently discovered—and it works! We've found ways to train the muscles using direct and indirect work that coaxes optimal recovery and X Reps to jolt the nervous system to crackle with new electrical energy—just what you need to activate as many fibers as possible quickly. You'll be able to train every muscle

with power-packed precision so you maximize its development—and that means you'll get bigger than ever fast, no wasted effort!

Because of our positions at *IRON MAN* magazine and our 40 years of combined experience in the gym, we're able to bridge the gap between science and real-world application. We test the scientific theories that cross our desks and computer screens at the magazine, refining them into workable models and then reaping the muscle-building benefits. The most efficient muscle-building strategies we've discovered are in this book, which means less trial and error for you and faster gains.

We're not going to kid you. It takes some work and sweat, but with this book you'll be able to build more muscle without spending hours in the gym with hit-or-miss training. Our programs are on target, so prepare to grow like you've never grown before with the Ultimate Mass Workouts and X Reps.

—Steve Holman and Jonathan Lawson
IRON MAN
Training & Research Center


Steve H.


Jonathan L.

The Ultimate MASS WORKOUT

Featuring the X-Rep Muscle-Building Method

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CHAPTER 1

Ultimate Body and the X-Rep Revolution

The human body is an extremely efficient machine. It can adapt to a changing environment by heating and cooling itself, it can fend off illness with its powerful immune system, and it can metamorphose into a bigger or smaller form, depending on the demands placed on it. Pretty spectacular stuff! As a bodybuilder you're trying to increase the stress on your muscles to force them to grow beyond their normal size (metamorphose into a much bigger entity). That can be a difficult job because the more you throw at your body, the more it adapts and tries to hold on to its normal size. Mother Nature doesn't see a need for all that extra muscle, unless those muscles are absolutely necessary for survival. One of the biggest muscle-building roadblocks she's set up is your nervous system.

So while there are specific movements for every bodypart that you should keep in your routine—the basic core exercises—every time you hit failure on those exercises, it's your nervous system that balks, not the muscle. You can do set after set to try to get around or over that roadblock, but with each set, your nervous system stops you early, and there are many muscle fibers left understimulated and completely unused. The X-Rep technique, which you'll soon learn about, is one way around that roadblock. It allows you to leapfrog nervous system failure, significantly improve the anabolic stimulation of any set and grow at an asounding rate. To make X Reps as effective as possible, however, you have to use them on the most effective exercises for every bodypart.

The "ultimate" exercises that will be discussed in the next few chapters are the best of the best. They mimic the body's natural movement patterns, so you get the most fiber recruitment and hypertrophic response possible. Keep in mind

that muscles are intertwined—hamstrings with calves, delts with pecs and so on—which means most function best in concert with surrounding muscles. That's why you get such spectacular results with certain exercises that have exceptional synergy, or muscle teamwork: No muscle is an island.

To be more specific, if you want big quads, squat. The squatting action is natural to the body, and it can use muscle teamwork to move heavy loads. Leg extensions, on the other hand, don't build near the mass that squats can. Of course, you have to squat in a manner that forces the quads into the prime-mover position. If you break form or are built in a way that shifts too much of the load onto muscles like the glutes and lower back, you'll have to find a squat variation that's more quad oriented for your specific structure. In other words, barbell squats aren't for everyone (more on that later).

But using the best mass-building exercises is only part of the anabolic solution. Remember, every set you do, even if you push it as hard as you can, lacks much hypertophic punch because of nervous system failure. It's the very reason bodybuilders do set after set after set and get only small increases in muscle. It has to do with what's known as the size principle for recruitment of motor neurons. In a standard set, the type 1 slow-twitch fibers are recruited first, and the fastest-growing type 2 fibers last, which is why so many bodybuilders consider the last few reps of a set critical; however, usually your nervous system shuts down before much anabolic stimulation of those fast-growing fast-twitch fibers occurs.

The solution is X Reps, which allow you to override nervous system failure and make each set two to five times more effective than conventional sets at stimulating those highly anabolic fast-twitch fibers. That's because X Reps, or *ex*tended repetitions, extend the tension time on those key fibers *in the optimal position of an exercise* at the end of a set for a dramatic anabolic surge—the fast-growing fibers keep firing.

X Reps are basically short pulses at the optimal position of any exercise—and you do those pulses at the end of a set when your nervous system cries, "Uncle!" For example, when you

can't get antother rep on squats, you lower yourself about a third of the way down and do three-to-six-inch partial reps in that position to extend the tension time on the quads' fast-twitch fibers—and those pulse reps can drastically reduce your time in the gym and provide some of the best raw muscle gains of your life.

X-Rep Evolution

In *Size Surge 2* a static X-Rep technique was applied to the peak-contracted position of contracted-position exercises, such as leg extensions. The trainee was instructed to hold the top, locked position motionless rather than using a partial-pulsing action. We've discovered that that's somewhat inefficient. While X Reps can be effective on any exercise, you'll find that using X Reps as pulses on multijoint midrange movements, like squats, when the muscle is somewhat lengthened, will allow more force production. That can produce more growth stimulation than the fully flexed position of an isolation exercises, like leg extensions. In fact, there are a number of researchers who say that the contracted-position is the *worst* place for muscle fibers to generate their maximum force. Here's a quote from the well-researched book *Designing Resistance Training Programs* by Steven J. Fleck, Ph.D., and William J. Kraemer, Ph.D., that makes that point:

"There is an optimal length at which muscle fibers generate their maximal force. The total amount of force developed depends on the total number of myosin crossbridges interacting with active sites on the actin. At the optimal length there is potential for maximal crossbridge interaction and thus maximal force. Below this optimal length, less tension is developed during an activation because with excessive shortening there is an overlap of actin filaments so that the actin filaments interfere with each other's ability to contact the myosin crossbridges. Less crossbridge contact with the active sites on the actin results in a smaller potential to develop

tension."

In other words, in the peak-contracted position, the fibers are very bunched up, so much so that they can't produce as much tension as when the muscle is in a more lengthened state. Since tension/force is a key hypertrophic trigger, that means X Reps may produce best results when the muscle is slightly stretched, such as midway in the stroke of the squat. Some observations appear to back up that belief:

1) Many trainees have trouble building calf size. Notice that the majority rarely use a full range of motion, choosing instead to bounce near the top position rather than allowing their heels to move down past the footplate. Could it be that their calf-building problems are partly due to the fact that they miss training the muscle when it's near full elongation, or stretch? (Another part of the problem is that they are only using isolation exercises and not the best calf-building movement, but we'll discuss that later.)

Larry Scott, the first Mr. Olympia, tells a story about changing gyms and using a different apparatus for donkey calf raises, an exercise where you bend at the waist, rest your forearms on a high bench or table and someone sits on your hips so you can do calf raises on a high calf block. He began losing size in his lower legs, until he realized that the reason was due to the placement of his upper body on the new setup. The angle of his torso was above 90 degrees to his legs—he wasn't bent over enough—which lessened the stretch on his calves. Once he positioned his torso at a 90 degree angle to his legs and performed a full-range movement, his hamstrings pulled his calves into a more stretched position, and his calves started growing again.

2) When Steve was in the early stages of developing Positions-of-Flexion training, he noticed that trainees made quantum leaps in mass when they incorporated a stretch-position exercise for each bodypart—incline curls for biceps, overhead extensions for triceps, stiff-legged deadlifts for hamstrings and so on. Was the reason for the new surge in

growth due to the target muscle getting work near full elongation? The most likely answer is yes, and it's also the reason that donkey calf raises are considered the best calf exercise—because the movement forces the gastrocnemius muscles to stretch due to the angle of the trainee's torso, which should be at 90 degrees to the legs, to trigger a severe pull on the calf muscles.

3) Arthur Jones, creator of Nautilus machines, suggested that to get best results with one-set-to-failure training, the trainee should go to failure on an exercise and then pull or push up as high as possible and hold for a few seconds—that is, perform an isometric hold at a point along the range where the target muscle is somewhat elongated. For example, on leg curls the hold would occur about a third up from the bottom, the sticking point and a spot where the hamstrings are somewhat stretched. Most trainees never perform that isometric hold. That's too bad because it may be a key to making high-intensity training much more effective. (We believe using partial pulses, or X Reps, instead of a hold in that position can make any exercise *significantly* more effective from a growth standpoint.)

In fact, a number of scientists believe that the main hypertrophic stimulus of *any* exercise occurs at the point where you reverse the movement with the target muscle slightly elongated. That's where maximum force occurs, so that's where the most growth stimulation happens. For example, at a point near the bottom of a preacher curl, leg extension, leg curl, squat, bench press and so on; or near the top of a pulldown and machine pullover. Does that mean the contracted position is worthless, like the top of a leg extension? Of course not. Training a muscle through its full range, in the three positions of flexion, helps develop as many muscle fibers as possible. Each position provides a unique stress on the muscle and its various fibers, and each can produce different recruitment patterns. Back to Fleck and Kraemer:

"[Muscle fiber] recruitment order in the quadriceps for the

performance of a knee extension is different from that of a squat. Variation in the recruitment order may be one of the factors responsible for the specificity of strength gains to a particular exercise. The variation in recruitment order provides some evidence that to completely develop a particular muscle it must be [trained] with several different movements or exercises."

Nevertheless, you can make signficant progress using only the best compound, or midrange, exercise for each bodypart and applying the X-Rep technique for extra fast-twitch fiber recruitment at the end of each set at a point where the target muscle is somewhat elongated. That's what the first chapters of this book are about. By using the ultimate exercise for each bodypart along with X Reps you'll make significant gains in muscle size and strength. You'll feel your muscles crackle with new grow power from the very first workout. Down the road you may want to graduate to training each muscle through its three positions of flexion, applying X-Rep training to every exercise at the precise point for maximum hypertophic stimulation. And even then your workouts will be relatively short, but they will provide a degree of muscle growth that will astound you.

So why did X Reps evolve from static holds described in *Size Surge 2* to power pulses? A quote gathered by researcher Robert Thoburn (www.robertthoburn.com) from Dr. Phillip Gardiner of the University of Manitoba explains it: "The nervous system is tuned to the performance of tasks, not just generation of force, so it can be easier to get complete recruitment of muscles if something moves."

Partial-rep pulses offer significantly better gains than just holding the weight statically, especially after a set of dynamic full-range contractions. They simply force more fast-twitch fiber recruitment due to movement. It's a better way of leapfrogging nervous system failure, the reason you stop an all-out conventional set—it's your nervous system that craps out, not the muscle. X Reps force the nervous system to keep firing

the muscle fibers with the most growth potential *at the critical point in an exercise's stroke* so you get three to five times the anabolic stimulation compared to what you get with conventional sets. Now that's efficiency!

So why not do only X Reps and forget the preliminary conventional reps? X Reps are most effective at the end of a regular set as opposed to by themselves as partials-only sets because of the way muscle fiber activation occurs. It has to do with the aforementioned size principle of muscle fiber recruitment—it's like a domino effect in which the low-threshold motor units fire first followed by the intermediates followed by the high-threshold motor units—so you develop as many fiber types as possible for maximum muscle size. Fastest gains in mass depend on developing *all* fiber types to their maximum! That's the reason one-rep maxes don't do a lot for building size for most people—they train only one or two fiber types. To build a muscle to the extreme, you have to train and build all fiber types. (Many researchers believe there are five or more different fast-twitch fiber types alone, and you should strive to develop every one of them for the largest muscle structures possible. Even growth in your slow-twitch fibers will add to your overall muscle size.)

Our X-Rep X-perience

We'd like to hit rewind for a moment because you may be wondering where the pulse-action X-Rep incarnation came from. We both work for *IRON MAN* magazine, and that means we can pick the brains of the best minds in bodybuilding. We like to test much of what we hear (if it makes sense) on ourselves, which we then report on in *IM*. Now keep in mind that this bodybuilding thing is not just about getting bigger. That's a large part of it, but to get that chiseled, granite-hard look, you have to lose fat—get as lean as possible while staying as big as possible. We're talking ripped at 5 percent bodyfat. That's when you really start getting those admiring and

End of May '04

July 1, '04

After only one month with X-Rep training, using the technique on one set of each exercise per bodypart, Jonathan's size and muscularity improved significantly.

stunned looks from people when you're outdoors with your shirt off. (We've had people actually walk up to us at the beach or at the park and, after a few moments of staring, say, "Oh my god! You look incredible!") That being the case, every summer we make it a point to get into big-and-ripped shape for a photo shoot (and, of course, to look good at the beach). Unfortunately, the past few years our progress seemed to be stalled—we looked about the same each time we peaked—but then it happened.

A group of articles on static, or isometric, training hit our offices from three respected authors, one of whom built 21-inch arms doing only about four sets of biceps and triceps work twice a week—no steroids. He said the key to making it happen was compound exercises with a significant twist—holds at the right place along the range of motion at the end of each set.

While we were skeptical, isometric holds at the end of a set made some sense. The other two training researchers had similar things to say about the anabolic potential of static training, with holds at various places along the stroke of any exercise. Then a scientific study was released that showed that isometric contractions have potentially the same, if not better, muscle-building effects as dynamic full-range sets in some instances. Interesting!

We had collected a few more pieces of the mass-building puzzle: Our own research showed that trainees stop a regular dynamic set due to nervous system failure—leaving too many muscle fibers understimulated or completely unstimulated for growth to occur. At the end of a set, just when the fast-twitch fibers kick in, your nervous system craps out. That's why most bodybuilders do so many sets—and even that doesn't cause significant muscle growth in many trainees because the nervous system smothers growth activation every time. Now you begin to see why it takes so long to build any noticeable muscle for the majority. It takes lots of time and a lot of sets, or volume, to get past the nervous system roadblock that prevents optimal muscle stimulation. Or does it?

Could an isometric contraction at the right spot in the range of motion at the end of a regular set force more nervous system activation, tax more fibers and exponentially increase the muscle-building power of any set? Science and anecdotal evidence say yes—that's how the author with the 21-inch arms did it. We were willing to give it a test run, but after a few workouts we discoverd that small dynamic pulsing actions are better than holds at the end of a set. Why? A little dynamic action works better because the nervous system needs some movement for optimal response, even if that movement is small (see Dr. Phillip Gardiner's quote earlier in this chapter).

End of May '04

July 1, '04

After only one month with X-Rep training, using the technique on one set of each exercise per bodypart, Steve's physique got more muscular and dense than it's ever been.

With X Reps you get the nervous system to fire a maximum number of muscle fibers at the precise position of flexion of any exercise for a quantum leap in muscle fiber activation in any one set. That can result in enormous increases in growth stimulation, not to mention strength, with very few sets. We were skeptical at first, but once we started using X Reps we were convinced. We began using the technique at the end of May '04, and one month later we were in such phenomenal shape that we were able to reschedule our photo shoot to an earlier date. Jonathan was floored when, after only one month with X-Rep training, he weighed more than he ever had in lean condition and was significantly more ripped and bigger than ever. Steve, at 44 years old and with much less muscle-building potential (hardgainer), also made a quantum leap in size, strength and condition in only one month (take a look at the photos on the previous pages that were taken about a month apart after beginning X-Rep training—even we were shocked! And, by the way, no steroids were involved or trick photography or computer enhancement.).

For example, the week before the shoot, when we should've been depleted and weak, we went up 70 pounds on our calf raises in one workout without a hitch! We got similar increases on other exercises, and that's after we cut our bodypart routines in half because of the intensity uptick from X Reps. (The program we used during those last few weeks appears at the end of Chapter 12.)

We believe that X Reps can do for you what it did for us—get your body to a new level of size and muscularity faster and with less waste in the gym than ever before. And you can start by using only one exercise per bodypart, the ultimate exercise for each muscle. So let's get to the single best exercise for each bodypart, the one that can trigger the most fiber activation during a conventional set, and the best X Rep position for each so you can turbocharge your very next workout with X-treme muscle-building power!

X-Rep X-ecution: How to Intensify Any Set

Step 1: Perform a regular full-range (dynamic) set to positive failure, which should occur between rep seven and rep 10 on most exercises.

Step 2: Move the bar, machine lever arm, dumbbells or foot plate into the appropriate position for X Reps, with help from your training partner if necessary. (Each exercise has a point along its stroke that's optimal for target-muscle fiber recruitment; for example, just below the midpoint of an incline press where there is elongation in the pectorals and maximum force potential.)

Step 3: Do four to six up-and-down pulses in the X-Rep position. Those pulses should be in a range of four to eight inches, relatively short strokes. You should feel the target muscle screaming for relief, but grit your teeth and take that as a sign of extreme growth stimulation.

Step 4: Terminate the set when you can no longer pulse with the resistance. Take a few deep breaths, stretch and contract the target muscle and feel the blood rushing in. You'll realize that you've done more to trigger growth with that one X-Rep set than most trainees get with three to four conventional sets.

CHAPTER 2

Ultimate Quad Training

Remember, the human body functions best during actions that synchronize a number of muscles for a natural movement that could be necessary for survival—and what could be more natural and necessary to survival than jumping out of the path of a hungry, charging tiger? (Siegfried and Roy would no doubt agree.) The jumping action causes two of the largest bodyparts—quads and glutes—to work together in a powerful display of teamwork. You get maximum muscle fiber involvement through coordinated strength, so to build your quads, overload the jumping move: Squat heavy!

You say you dump the bar when the reps get difficult, or you can't feel your thighs working? You could have a form problem or a leverage problem caused by your structure. For example, long legs produce an exaggerated range of movement. When

These photos of Jonathan's legs were taken about one month apart. After only seven leg workouts with X Reps his muscle size, density and vascularity all increased dramatically.

the weight gets heavy, the torso comes forward, and the lower back and glutes can get the brunt of the stress.

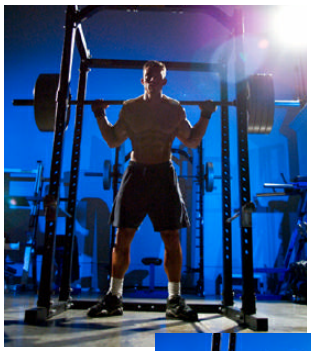
Shorter legs make powerful squatters, and trainees who have shorter legs usually get big quads from squatting, but they must also be cognizant of form. It's very easy for short-legged people to place the bar a little lower on the upper back, use a wider stance and leverage the weight up with the butt muscles—and a little hitch from the lumbars.

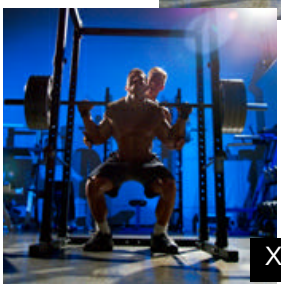
The bottom line is that you have to minimize your bottom leverage, or glute involvement, if your goal is quad development. (Lifting for power rather than muscle is another story.) On standard free-bar squats that means you must keep your torso almost perpendicular to the floor—a slight forward lean is acceptable and easier on the back—feet slightly wider than shoulder width with your toes pointing out at 45 degree angles. Don't shoulder the bar too low on your upper back. It should rest across the middle of your upper traps, just above your posterior-delt heads. Squat till your butt sinks below knee level, and don't bounce.

You may not feel it all that much in your quads when you get close to failure, but that's where X Reps come in. Once you can't get another full rep, squat down to a point just above halfway down, and pulse in a two-to-four-inch range until you can't stand the pain. Those are X Reps, as they *ex*tend the set. You're extending the tension time on the quads' fast-twitch fibers at the midrange of the exercise's stroke, an incredibly effective technique for muscle growth.

If you still don't feel it in your quads after X Reps, you may be one of those trainees who find squats awkward. In that case, you should try another piece of equipment for a squat-type movement. Long-legged trainees often find the Smith machine the best alternative. You can position your feet slightly in front of your hips so your torso remains upright from the top of the rep to the bottom. The X-Rep technique, applied at the end of the set at about one-third of the way down the stroke, guarantees you'll feel it in your quads. The hack-squat

machine can work too. On either of those alternative exercises, don't place your feet too far in front of your hips, or you'll shift too much stress to your hamstrings and glutes, even if your torso stays perfectly perpendicular. It's a leverage thing.





X Reps

Squats

•Rest the bar on your traps, just below the base of your neck.

•Maintain a flat lower back throughout the movement.

•Look straight ahead.

•Squat to a depth at which your thighs are just below parallel to the floor.

•Don't lean too far forward; stay as upright as possible.

•Don't pause at the top or bottom of the movement and don't bounce.

•At failure perform X Reps at just above the midpoint of the stroke.

CHAPTER 3

Ultimate Hamstring Training

The last comment in Chapter 2 was a hint concerning the best, most-natural movement for hamstrings. Did you catch it? The hams work in concert with the glutes and quads when the feet are out in front of your body, as in feet-forward Smith-machine squats, although the front-squat variation appears to be best.

According to magnetic resonance imaging, or MRI, studies, the front squat works the hamstring muscles—semitendinosus and biceps femoris—better than regular squats performed on a Smith machine, probably because of the torso's more upright position on the front squat and the slight hips-forward movement pattern. Of course, that exercise also works the quads to some degree, so your best bet is to end your quadriceps routine with feet-forward Smith-machine front squats.

One month with X-Rep training made a drastic difference in Jonathan's hamstring and calf size and muscularity.

Incidentally, MRI studies also show that leg presses with your feet high on the foot plate *don't* hit the hamstrings, so that's not a good substitute. It no doubt has something to do with torso position—on the leg press it's positioned at almost 90 degrees to the legs, which limits the range of motion.

What about lunges, another popular hamstring movement? MRI testing says there's very little hamstring involvement. Once again, it's probably due to the position of the torso.

Now you see why it's so difficult to develop the hamstrings: The best compound exercise is not a crowd favorite, and almost every exercise that's believed to work the hamstrings with muscle synergy doesn't. Not even the mighty barbell squat involves much, if any, hamstring action. What's been happening is that most trainees only work their hamstrings with leg curls, an isolation exercise, and some MRI studies show that many leg curl machines only work the semitendinosus part of the hamstring group, leaving the biceps femoris untouched. The answer: Feet-forward Smith-machine front squats.

Oh, and of course you'll want to add X Reps to supercharge the growth effect. As you did on squats, lower about one-third of the way down from the top and do two-to-four-inch power pulses. Think about engaging the hamstrings on every X Rep, and get ready for gnarly, knotty, sweeping hamstrings.

X Reps

Feet-forward
Smith-machine
Front Squats

•Rest the bar on your front deltoids, with your arms crossed.

•Place your feet forward about a foot in front of your hips.

•Use a shoulder-width stance with your feet angled out at 45 degrees.

•Maintain a flat lower back throughout the movement.

•Look straight ahead.

•Squat to a depth at which your thighs are just below parallel to the floor.

•Don't lean forward; stay as upright as possible.

•Don't pause at the top or bottom of the movement.

•At failure do X Reps one-third of the way down from lockout.

Alternative: You can use the hack machine, but keep your hips away from the back pad—a rolled up towel may help—and your feet high on the foot plate with a stance that's slightly wider than shoulder width.

CHAPTER 4

Ultimate Calf Training

This is one of the most stubborn muscle groups, and for good reason: There's no in-the-gym weight exercise that directly targets the natural movement pattern of the calves, which may explain why so many people have trouble building them. All weight-training-based calf work is isolation. Think about it. Standing calf raises, donkey calf raises, seated calf raises. It's like trying to build your quads using only leg extensions. People who have supergenetics may be able to build lots of muscle with only isolation exercises, but most need to use more natural, compound exercises.

For example, your lower-leg muscles are used for mobility first and stability second. How do you train the mobility function? You have to walk or run. How do you increase the resistance? By gradually picking up the pace—as in interval sprints—or trucking up inclines—as in hill runs.

If you're one of the lucky people who have a genetic predisposition for full calves, you can get by with a few sets of calf raises. If not, which includes most of us, you need to do some form of mobility work—treadmill, outdoor walking or running and so on—and then supplement that natural movement with more-isolated calf exercises.

If you have knee problems and can't run, cycling is the next best thing. Use a stationary bike and push the pedals with the balls of your feet. Try sprints: hard and fast for 30 seconds alternated with a steady medium pace for 30 seconds. You can do that on a real bicycle outside as well.

What about X Reps? Save those for your in-the-gym isolation exercises, like leg press calf raises. Try two-to-four-inch power pulses at the end of a set with your heel even with or just slightly below the foot plate.

CHAPTER 5

Ultimate Chest Training

One month with X Reps thickened Steve's pecs and etched in the detail. While he lost bodyfat and striations appeared quickly, he also got new size in almost every bodypart—he gained muscle as he lost fat, something many experts claim is impossible.

The natural movement for your pecs is pushing your body away from an object or pushing an object away from you. Remember that hungry tiger we were avoiding with a jumping action in Chapter 1? Well, if you didn't jump out

of the way, he's on your chest, and you need an explosive action from your pecs, arms and shoulders to get him off of you—or at least keep his jaws away from your throat. It sounds like the bench press is the big winner here, but hold the phone (and the tiger).

Have you ever noticed how people naturally raise their hips off the bench when a bench-press weight gets difficult? Why? Because the natural inclination (or *declin*ation, in this case) is for the body to want to push the bar more toward the feet to get better muscle synchronization, from the pec major to the pec minor to the front delts to the triceps. Therefore, most people find that the decline press is a better choice, hands out sightly wider than shoulder width—or dips with a foward lean and elbows wide. Those two exercises put you in the best position for overloading your pecs with a little help from other muscle groups.

Flat-bench presses, on the other hand, rely too much on the front delts, although some trainees can manage to set up for flat-bench presses in a way that provides good pec stimulation—back arched, rib cage high and shoulders back. If you think about that setup, however, it's really just putting the body in a semi-decline-press position, so why not just do declines?

Studies also show that declines hit the upper chest as well as the lower, but most bodybuilders will want to do some type of incline press or incline flye, preferably with cables to get continuous tension, to augment the decline work. The pecs, after all, are fan-shaped muscles, so angle training is important if you want to stress as many fibers as possible; however, many trainees can get good development using only dips or declines.

And, of course, you'll want to supercharge your sets of decline presses or dips with X Reps. The best spot for the power-pulse technique is about eight to 10 inches out of the bottom position, almost halfway up. That's where the pecs are semi-stretched and can generate the most force/tension.

X Reps

Decline Bench Presses

•Maintain a slight arch in your lower back.

•Use a grip that's slightly wider than shoulder width.

•Touch the bar just below your low-pec line.

•Drive the bar up and over your abdomen.

•Don't pause at the top or bottom of the movement.

•When you can't do another full rep, do X-Rep pulses near the midpoint of the stroke, or about 10 inches out of the bottom position. A spotter is mandatory unless you use a Smith machine or power rack with the safety bars in the correct position.

CHAPTER 6

Ultimate Delt Training


One month with X-Rep training made Jonathan's shoulder structure appear considerably wider. Adding mass to the lateral-delt-head accentuates that impressive V taper.

This is an easy one: Overhead presses, right? Unfortunately, that's more beneficial for front-delt growth. Remember, the deltoid muscle has three heads, or sections, and most bodybuilders are more concerned with the medial, or side, head because it's what gives the torso width—plus, the front head gets lots of work from other exercises, like bench presses, dips and even curls. So how do you hit the side head? By raising your upper arm out to the side. Ah-ha, lateral raises. But can you really get optimal muscle synergy, with the medial head being the prime mover, with that awkward, somewhat unnatural exercise? Some people can. Larry Scott, the first Mr. Olympia, got some pretty big side delts doing heavy semi-cheat laterals, but what he was really doing was closer to a dumbbell upright row than a lateral raise.

Yep, the dumbbell upright row is probably the most natural exercise for overloading your medial-delt heads—as long as your upper arms move out to your sides and become perpendicular to the floor and you lean forward slightly

throughout the exercise. You move your upper arms into the same position as the top of a lateral raise, but because your arms are bent in a rowing motion, you get muscle synergy from the biceps and traps and you can use much more weight and overload the side heads better than with laterals.

To achieve that optimal upper-arm position, you have to pull the dumbbells out and in front of your anterior delts, simulating a wide grip. If you keep the dumbbells close together, as in a narrow grip, you'll throw too much stress onto your upper traps.

Does that mean you shouldn't do the overhead press? No. It's a good exercise that strengthens the upper back and rotator cuff muscles that protect the shoulder capsule. If you have trouble developing your medial-delt heads or you just want them to have more spectacular roundness, you may want to do dumbbell upright rows first in your delt routine and then go to overhead presses. That will put priority where it belongs—on your side-delt heads for more width.

And don't forget the X Reps to make each set of uprights even more delt direct. At the end of your set pull the dumbbells up about 10 inches and out away from your thighs. That's where you want to do the power pulses. You'll feel your medial-delt heads cramping, but keep pulsing for as long as you can. You may even want to turn your hands so your palms face each other during the X Reps, which makes them more like bottom position laterals, but only do that if you feel it more than with your palms facing back. Experiment. You gotta make sure your front delts are not taking over, and you must keep tension on your medial-delt heads throughout the set and all X Reps.

Dumbbell Upright Rows

•Start with the dumbbells touching in front of your thighs.

•Lean forward slightly and pull the dumbbells up and out until the inner plates of each dumbbell are near your front delts.

•Raise the 'bells till your upper arms are parallel to the floor.

•Don't lean back; keep your torso upright and slightly forward and focus on lifting your elbows.

•When you can't do another full rep, do X Reps with the dumbbells out and up about 10 inches from the bottom position, near the midpoint of the stroke.

X Reps

CHAPTER 7

Ultimate Back Training

So many muscles, so little time. Let's narrow it down (although narrow is a bad word to use in a discussion of back training): Your back has three big muscle structures—the traps, lats and lumbars, or spinal erectors—and lots of small ones. Can one exercise cover them all? Unfortunately, no, but we can determine the most natural exercise for each so you can maximize efficiency.

Your trapezius muscles are antagonistic to your pecs, so you can determine the most natural movement by using the same motion as you use for the pecs, only with the resistance coming from the opposite direction—that is, pulling your arms forward instead of pushing back against them. In other words, you want to row but on a slight incline. For example, bent-over barbell rows are a good choice, if you can maintain a slightly elevated torso—a little higher than parallel to the floor—while pulling the bar to your sternum with your arms angled slightly away from your torso. That last part is important because if your arms come into your body, your lats start working too hard. Think of it as a reverse decline press.

Most trainees can't do bent-over rows correctly, usually because ego won't allow them to use a weight they can row with proper form. So they heave the weight up, pull their arms into their torso and touch the bar to their lower abdomen. That being the case, a rowing machine may be a better choice, preferably one that's plate loaded so you don't get drag from a weight stack. (The negative, or lowering, stroke of an exercise is very important for triggering muscle growth, and weight-stack friction tends to make the negative easier when it should actually be harder. You're strongest on the negative stroke, so why on earth would you want it to be easier and produce less fiber stress?)

If you don't have a plate-loaded rowing machine with torso support, you can use dumbbells and row while lying facedown on a low-incline bench or other torso support that enables you to stay slightly above parallel to the floor. Remember, the action should be like a decline press, only you're pulling

instead of pushing. And don't forget to angle your upper arms away from your torso so you can squeeze your scapulae together as you pull. Cable rows can work in a pinch, but use a straight bar and a grip that's slightly wider than shoulder width. Of course, there's that weight-stack-drag problem, but it's still an acceptable alternative—if it helps you maintain proper form.

Perform X Reps at the end of the set with the bar or dumbbells near the middle of the stroke. As you pulse try to retract and extend your shoulder blades on each. You should have some elbow action as well, but don't neglect scapulae retraction.

For lats most bodybuilders like pulldowns. That's a good choice, as most can't do chins correctly to affect their lats optimally. There is that weight-stack-drag problem, but it's a trade-off for better lat-targeting form. The question is, Just what is "correct lat-targeting form"?

The lats' function is to pull your arms down into your body and then back behind

Midback:
Chest-supported Rows

•Keep your back flat.

•Use an overhand grip, with your hands slightly wider than shoulder width apart.

•Keep your arms angled away from your torso.

•Squeeze your shoulder blades together at the top of each rep.

•Don't relax your shoulders; maintain tension on your midback muscles throughout the set.

•At the end or the set perform X Reps near the middle of the stroke, trying to retract and extend your shoulder blades on each.

your torso—and as Mother Nature likes synergy to make a muscle function as effectively as possible, the arms should be involved. So should the midback to a degree, but neither the arms nor midback should take over as the prime mover. That means you don't want to use an undergrip pulldown, but you do want your arms to come in close to your torso.

Hmm, let's see: Regular pulldowns tend to force your upper arms out due to the pronated grip, which also puts your biceps at a leverage disadvantage. Undergrip pulldowns bring your arms into your torso, which is good for lat stimulation, but they put the biceps in the driver's seat a little too much. The better choice is parallel-grip pulldowns, but you have to be sure your arms come into your torso and then move back behind it. To help make that happen, set your grip at about shoulder width—or narrower for some people—and maintain an arch in your lower back. Some of the old-time bodybuilders used to do chins with a V-handle attachment hooked over a chinning bar. That's a pretty darn good lat exercise—if you can get all the way up on every rep. Most trainees will want to graduate to that one

Lats: V-handle Chins.

•Arch your back as you pull your body up to the chinning bar.

•Try to touch your lower chest to your hands, forcing your elbows back behind your torso to contract your lats.

•Lower to the arms-extended position, but maintain tension on the lats by not completely locking your arms.

•At the end of the set perform X Reps about 10 inches up from the bottom.

by doing a similar move on the pulldown machine. Use the V-handle from the cable row machine. If you can, use separate cable handles that allow your hands to spread apart as they come into your chest, and you'll get a better lat contraction. No matter what handle you use, keep it strict and pull all the way down to your lower chest—and keep that arch in your lower back. When you can't get another full rep, do X Reps near the middle of the stroke. Pulse for as long as possible and feel your lats working.

Speaking of lower back, is the one set of hyperextensions you throw in at the end of your workout doing the job for that important, injury-prone area? Probably not. For one thing, the hyperextension is a single-joint exercise, and the recurring theme of this book so far is that you want compound, natural movements. Just what is your lower back's natural function? To help you lift things as well as stabilize the torso. From that analysis we can deduce that the best lower-back exercise is the regular deadlift. You can still do your one or two sets of hypers or iso-lower-back machine, but do them as a finishing exercise after deadlifts. Better yet, because deadlifts can be somewhat dangerous when fatigue sets in, do X Reps on a hyperextension bench immediately after a set of deadlifts. You want to pulse below the middle of the stroke—and don't be afraid to add weight. Hold a barbell plate so your lower back, glutes and hamstrings burn.

Note: If you do stiff-legged deadlifts as part of your hamstring program, you don't have to include regular deadlifts as well. Also, many people don't like regular deadlifts, but keep in mind that they are a great, or ultimate, exercise that work many muscles, not just the lower back. If you simply can't bring yourself to do them, or your gym has no place to perform them, you can substitute stiff-legged deadlifts. You must keep your form perfect on them as well. Be sure to read the exercise descriptions in Appendix A of this book.

Stiff-legged deadlifts. Keep your back flat, a slight bend in your knees and don't go below midshin level.

Lower Back: Deadlifts

•Grab the bar with a shoulder-width grip. You may want to use straps to reinforce your grip.

•Keep you back flat and head up as you drive with your feet and pull the bar off the floor.

•When your torso is erect, lower slowly and repeat, keeping your back flat throughout the movement.

•When you can't do another rep with perfect form, move to the hyperextension bench for X Reps. Do the partial pulses about one-third of the way up from the bottom position.

Regular deadlifts. Start with the bar on the floor. Squat down into a deep-knee bend with your back flat, grab the bar, then drive to the standing position.

CHAPTER 8

Ultimate Triceps Training

Jonathan's triceps size and detail improved significantly in one month with X-Rep training.

These are the arm muscles that help push things away from your torso, but to maximally stimulate as many fibers as possible, you want to do that pushing near the triceps' best-leverage position. That position occurs when your arms are down and slightly behind your torso, elbows locked. One-arm pushdowns? Nope, as there's no muscle synergy—not to mention the weight-stack drag on the negative stroke. Think multijoint exercise. How about dips? Now you're talking, but you have to do them with triceps-torching form. The dipping bars have to be fairly narrow, about shoulder width, you must keep your torso upright—very little forward lean—and you have to keep your upper arms close to your body. If you flare your elbows, the pecs and front delts can take stress off the triceps.

Bench dips, with the benches parallel, your body facing up and your hands on the edge of one and your feet on the edge of the other, is a good alternative to regular dips. You can even

have a dumbbell placed on your midsection to add resistance, but as your strength increases, adding more and more weight can get awkward, not to mention downright dangerous.

If you hate dips or can't feel them in your triceps for some reason, close-grip decline-bench presses may be a better choice, but use an EZ-curl bar if you can. A narrow grip on that bent bar will put your hands in a more natural position, taking stress off the wrists and making it easier to keep your arms in close to your torso. You can also try decline presses on a Smith machine, which can minimize balance issues and allow you to push your triceps as hard as possible without having to control a free bar.

As for X Reps, do them right at the middle of the stroke, if you can. Due to different muscle-attachment placement, you may find that you feel your triceps firing better closer to the top, near lockout. Experiment with different pulse positions to find the best X spot for you, just make sure there is enough elongation in the triceps to produce significant force to torch as many fast-twitch fibers as possible.

Bench Dips or Parallel-bar Dips

•Use benches set parallel to each other, one for your hands and one for your feet, or use parallel bars that are about shoulder width apart.

•Keep your torso upright as you lower yourself down until your arms are bent at 90 degrees.

•Maintain your upright position and push yourself back to lockout and contract your triceps.

•At the end of the set perform X Reps about halfway down to the point at which your arms are parallel to the floor.

X Reps. On bench dips (right) or parallel bar dips (above), the X position is about halfway down to the point at which your arms are parallel to the floor.

CHAPTER 9

Ultimate Biceps Training

The show-me-your-muscle muscle is the primary pulling mass in the upper arm, so to train it effectively, you need to pull a heavy load into your body—with the help of other muscles. Curls? You don't get effective muscle synergy there. The curl is a single-joint exercise—not to mention the fact that the resistance is maximum only when your arms are bent at 90 degree angles; the bottom third and top third of the exercise are dead spots, or rest areas, for your bi's.

Think pulling, as in pulling something down toward you or pulling yourself up. You got it: pullups performed with an undergrip. Remember in the discussion of back exercises in Chapter 6, when we discarded undergrip pulldowns for lats because they used too much biceps? Well that's precisely the movement you want here, but it's better to use a shoulder-width grip on a chinup bar and pull your bodyweight up, as you can't rock back and cheat the weight down the way you can on a pulldown machine.

Jonathan's arms were bigger than ever after X-Rep training. He used the technique on one set of each exercise for all bodyparts.

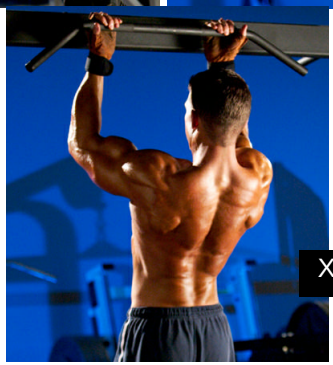
As for X Reps on undergrip chins, try those power pulses about halfway up—once you can't do anymore full reps. Like triceps, the biceps' insertion point makes the optimal X-Rep spot

Although curls aren't the most efficient exercise for biceps development, you can make them better by using X Reps below the midpoint of the stroke after you reach failure.

for this exercise somewhat vague. Try halfway up and points lower, down toward full extension.

One other point: The brachialis muscle that runs under the biceps and into the forearm, is one you may want to target with a single-joint movement, like thumbs-up, or hammer, curls. When you build that muscle under the biceps, it pushes up the biceps for more peak. (That was one of Arnold's secrets.)

So what's the best brachialis exercise? According to MRI studies, it's the incline hammer curl. Add a few sets of those after your undergrips, and you'll soon have impressive sky-high bi's that could make Mount Everest conqueror Sir Edmund Hillary's mouth water. You supercharge them with X Reps by pulsing below the halfway point along the exercise's stroke.



X Reps

Incline hammer curls will develop the brachialis muscle under the biceps for sky-high peaks.

Undergrip chins

•Use a palms-up grip with your hands about shoulder width apart.

•Without rocking back too much, pull yourself up until your chin is over the bar.

•Hold and flex your biceps.

•Slowly lower back to the arms-extended position, but don't lock out completely to maintain tension on your biceps.

•At the end of the set do X Reps just below the halfway point.

•Add a set or two of incline hammer curls after undergrip chins to train the brachialis under the biceps for more arm fullness. Do X Reps below the midpoint along the exercise's stroke.

CHAPTER 10

Ultimate Abdominal Training

The primary function of the abs is to curl your torso toward your hips or your hips toward your torso. It sounds as if crunches or reverse crunches would win here—but you get no muscle synergy on those, so bump them down the list. Like leg extensions for the quads and concentration curls for the biceps, however, they make good finishing exercises.

Recent EMG, or electromyograph, studies suggest that the bicycle exercise produces the most rectus abdominis fiber involvement. That's where you lie on your back with your hands next to your head, curl your torso up and twist to touch your right elbow to the opposite knee, which you're pulling toward your chest, alternating sides and pumping your legs as if you were riding a bicycle.

Why does the bicycle exercise produce so much electrical activity in the rectus abdominis? Think about it. You're curling your torso toward your hips as you bring your knee into your chest, which forces you to curl your hips toward your torso with synergy from your hip flexors. All the abs' natural functions are covered. The problem is, there's no way to add resistance. Can you just keep doing more reps as you get stronger? Yes, up to a point, but eventually you'll just be training the abs' endurance capacity, not doing much for enhancing development.

Remember the body's incredible ability to adapt. As soon as the abs become strong enough to handle a stress, they'll rely solely on slow-twitch fibers, which are high-endurance fibers that don't hypertrophy enough to further deepen the ridges in your midsection. (By the way, those ridges are caused by tendons running across the abdomen, so you do want to develop your rectus abdominis muscle. It makes those tendons sit deeper and turns those shallow gulleys into grand canyons.)

What's the answer? If you can do the bicycle exercise continuously with good form for longer than one minute, you need to move to incline or hanging kneeups. Keep your reps slow and be sure you curl your hips toward your torso at the top of each rep. Once you can do more than 15 perfect reps—it

might take a while—try the continuous-tension method, doing only the top two-thirds of the movement with a hip roll. Or you can secure a weight to your feet to increase the resistance for regular reps. As for X Reps, do them just below the middle of the action. Some trainees may find that too difficult and need help from a training partner. If you train alone, move to incline or flat kneeups when you hit failure on the hanging ones, and pulse near the middle, where your hips come off the floor or bench. Move your hips up and down a few inches in that range.

While studies show that hanging kneeups with a hip roll do work the entire rectus abdominis muscle, they don't work its torso-curling function—pulling your torso toward your hips. That's one reason the bicycle exercise is so effective. So, in addition to hanging kneeups, you should do some type of full-range crunches to finish off your abs. That doesn't mean standard on-the-floor crunches, as they're only half a crunch. You want a crunch that starts with your lower back arched so you get a slight stretch in your rectus abdominis.

The best full-range-crunch exercise is the Ab Bench crunch pull. The Ab Bench has a rounded lower-back pad so that when you sit on it, grab the cable from behind and hold the handles on your chest, your torso is arched over the pad, which provides the perfect ab stretch. From there you crunch down and forward into the maximally contracted position. To do X Reps pull about halfway into the stroke and pulse.

You can simulate Ab Bench crunch pulls by facing away from a high cable and sitting backward on a preacher bench so the curling pad acts as a lower-back support and lets you arch your torso back slightly on each rep. You'll have to use an adjustable preacher bench so you can set the pad low enough to support your lower back. You can also try doing regular crunches on a bench press bench with your feet supported on the barbell bar and your upper back hanging off the end of the bench for ab stretch. It's difficult to add resistance on those, however, so if you have an Ab Bench or cable setup, choose that first.

Incline Kneeups

•Start with your legs almost straight and your feet a few inches off the floor.

•Bend your knees as you pull your thighs toward your torso, rolling your hips up off the bench.

•When you can't do another full rep, do X-Rep pulses in the middle position, rolling your hips up off the bench a few inches on each.

Use the Ab Bench after hip-curl work. It provides full-range torso-curl work for your abs. If you don't have an Ab Bench, you can use a preacher bench set low for lower-back support and a rope connected to a high cable. Or do kneeling cable curls facing away from the weight stack and have your partner provide lower-back support.

CHAPTER 11

Basic Ultimate Mass Workout

You can get an incredible mass-building workout using only the best, or ultimate, exercises for each bodypart, especially if you use X Reps. You'll train the target bodypart with muscle teamwork, just the way Mother Nature intended, which can give you an intense overload for maximum growth. It's a very efficient training program, one you can come back to no

Basic Ultimate Mass Workout 1

(Monday, Wednesday, Friday or Tuesday, Thursday)

Calves: Treadmill (work up to hills)	15 minutes
Calves: Standing calf raises (X below middle)	2 x 15-20
Quads: Squats or hack squats* (X above middle)	2 x 8-12
Hamstrings: Feet-forward Smith-machine front squats (X above middle)	2 x 6-8
Lower back: Deadlifts*† or stiff-legged deadlifts* (X on hyperextension bench, below middle)	2 x 8-10
Lats: V-handle pulldowns or V-handle chins* (X middle)	2 x 8-12
Midback: Chest-supported rows* (X middle)	2 x 8-12
Chest: Decline presses or dips* (elbows wide; X below middle)	2 x 8-12
Chest (upper): Smith-machine incline presses (X below middle)	2 x 8-12
Delts (medial head): Dumbbell upright rows* (X below middle)	2 x 8-12
Delts (front head): Smith-machine presses* (X middle)	2 x 8-12
Triceps: Dips (elbows in; X middle)	2 x 8-12
Biceps: Undergrip chins (X middle)	2 x 8-12
Brachialis: Incline curls (X below middle)	2 x 8-12
Abs: Hanging kneeups (X middle)	2 x 8-12
Abs: Ab Bench crunch pulls or full-range cable crunches (X middle)	2 x 8-12

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

†Deadlifts are very taxing, so most trainees should do them at only one workout each week.

matter how advanced you are. Or you can stick to it for as long as you like, altering the number of reps you do for variation.

For most people, a Monday-Wednesday-Friday regimen is best, but two-days-a-week training can produce great gains as well. Do what suits your schedule and try to keep your enthusiasm bridled somewhat—too much too soon and you'll end up quitting. You gotta stay motivated.

If you try Workout 1, and it's just too taxing—or it just looks too intimidating, not a problem. There are solutions. And don't feel like you're copping out. Everyone's energy level is different. Some people prefer fewer days per week with longer workouts, while others thrive on shorter workouts and going to the gym more often. Basic Workout 2 is an alternative, with each session taking around 35 minutes or so—if you hustle.

You split up the Basic Ultimate Workout over two days, Monday and Wednesday. Then Friday you do the entire Basic Ultimate Workout with only one set per exercise—and you skip deadlifts, as you did those on Wednesday (remember, you should train deadlifts only once a week). Because you spend less time in the gym at each session, you can bump up the sets on weak bodyparts to three or four. For example, if you think your chest needs something extra, do three sets of decline presses and three sets of incline presses on Wednesday. You could even do two sets for those two exercises on Friday. Just don't do that for too many bodyparts, or you'll overstress your system. Adding sets for two bodyparts per workout is plenty.

Okay, you really don't like doing only one set for each exercise on Friday, not to mention that you're not a big fan of full-body workouts (just looking at that long list of exercises makes you want to head for the couch instead of the gym). No problem. The solution is the tried-and-true four-day workout, or Workout 3: Split Version. You use the same split as in the previous program, but you do the workouts on Monday and Tuesday. You rest on Wednesday and then go back to the gym on Thursday and Friday, repeating the two workouts from earlier in the week.

Once again, you do deadlifts only once a week, and the optimal day to do them is Friday so you get two days off after that more brutal workout. The coming weekend will make deadlifts much easier to stomach at Friday's workout, and leaving them out of Tuesday's workout will make that earlier-

Basic Ultimate Mass Workout 2: Split Version

(Monday, Wednesday, Friday)

Monday	
Calves: Treadmill (work up to hills)	20 minutes
Calves: Standing calf raises (X below middle)	2 x 15-20
Quads: Squats or hack squats* (X above middle)	2 x 8-12
Hamstrings: Feet-forward Smith-machine front squats (X above middle)	2 x 6-8
Abs: Hanging kneeups (X middle)	2 x 8-12
Abs: Ab Bench crunch pulls or full-range cable crunches (X middle)	2 x 8-12
Wednesday	
Lower back: Deadlifts* or stiff-legged deadlifts* (X on hyperextension bench, below middle)	2 x 8-10
Lats: V-handle pulldowns or V-handle chins* (X middle)	2 x 8-12
Midback: Chest-supported rows* (X middle)	2 x 8-12
Chest: Decline presses or dips* (elbows wide; X below middle)	2 x 8-12
Chest (upper): Smith-machine incline presses (X below middle)	2 x 8-12
Delts (medial head): Dumbbell upright rows* (X below middle)	2 x 8-12
Delts (front head): Smith-machine presses* (X middle)	2 x 8-12
Triceps: Dips (elbows in; X middle)	2 x 8-12
Biceps: Undergrip chins (X middle)	2 x 8-12
Brachialis: Incline curls (X below middle)	2 x 8-12

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

in-the-week session less ominous.

Yes, you can add sets to a few exercises if you feel the target bodypart needs more work; however, don't get carried away. Remember, you're training four days a week, not two or three, so there's more possibility for overtraining, a real gain stopper.

We like this last choice (Workout 3), as it's very flexible—if you can't make one of your workouts at the end of the week,

Friday	
Calves: Treadmill (work up to hills)	20 minutes
Calves: Standing calf raises (X below middle)	1 x 15-20
Quads: Squats or hack squats* (X above middle)	1 x 8-12
Hamstrings: Feet-forward Smith-machine front squats (X above middle)	1 x 6-8
Lats: V-handle pulldowns or V-handle chins* (X middle)	1 x 8-12
Midback: Chest-supported rows* (X middle)	1 x 8-12
Chest: Decline presses or dips* (elbows wide; X below middle)	1 x 8-12
Chest (upper): Smith-machine incline presses (X below middle)	1 x 8-12
Delts (medial head): Dumbbell upright rows* (X below middle)	1 x 8-12
Delts (front head): Smith-machine presses* (X middle)	1 x 8-12
Triceps: Dips (elbows in (X middle)	1 x 8-12
Biceps: Undergrip chins (X middle)	1 x 8-12
Abs: Hanging kneeups (X middle)	1 x 8-12
Abs: Ab Bench crunch pulls or full-range cable crunches (X middle)	1 x 8-12

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

Note: If you have the energy, do a drop set on all or some of the exercises at Friday's workout. That means when you can't do another rep, immediately reduce the poundage enough so you can get at least five more reps. With that drop-set method, you're actually doing two sets in one.

you can do the full-body day from Workout 2—and you train each bodypart twice a week hard with the optimal volume at each workout.

As for X Reps, most trainees will want to add something X-tra only to one set of each exercise. Most exercises have two sets listed, so it's best to do X Reps on the second set—to really finish off the fast-twitch fibers. If you do them on the first set,

Basic Ultimate Mass Workout 3: Split Version

(Monday, Tuesday, Thursday, Friday)

Monday	
Calves: Treadmill (work up to hills)	20 minutes
Calves: Standing calf raises (X below middle)	2 x 15-20
Quads: Squats or hack squats* (X above middle)	2 x 8-12
Hamstrings: Feet-forward Smith-machine front squats (X above middle)	2 x 6-8
Abs: Hanging kneeups (X middle)	2 x 8-12
Abs: Ab Bench crunch pulls or full-range cable crunches (X middle)	2 x 8-12
Tuesday	
Lats: V-handle pulldowns or V-handle chins* (X middle)	2 x 8-12
Midback: Chest-supported rows* (X middle)	2 x 8-12
Chest: Decline presses or dips* (elbows wide; X below middle)	2 x 8-12
Chest (upper): Smith-machine incline presses (X below middle)	2 x 8-12
Delts (medial head): Dumbbell upright rows* (X below middle)	2 x 8-12
Delts (front head): Smith-machine presses* (X middle)	2 x 8-12
Triceps: Dips (elbows in; X middle)	2 x 8-12
Biceps: Undergrip chins (X middle)	2 x 8-12
Brachialis: Incline curls (X below middle)	2 x 8-12

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

you may compromise your performance on the second set, and some trainees may even hold back on the first set because they know they have to do a second. You should go all out on both sets—don't hold back.

Trainees with good recovery may be able to do X Reps on all sets. Just be careful—overtraining is always looming in the shadows.

Thursday	
Calves: Treadmill (work up to hills)	20 minutes
Calves: Standing calf raises (X below middle)	2 x 15-20
Quads: Squats or hack squats* (X above middle)	2 x 8-12
Hamstrings: Feet-forward Smith-machine front squats (X above middle)	2 x 6-8
Abs: Hanging kneeups (X middle)	2 x 8-12
Abs: Ab Bench crunch pulls or full-range cable crunches (X middle)	2 x 8-12
Friday	
Lower back: Deadlifts* or stiff-legged deadlifts* (X on hyperextension bench, below middle)	2 x 8-10
Lats: V-handle pulldowns or V-handle chins* (X middle)	2 x 8-12
Midback: Chest-supported rows*(X middle)	2 x 8-12
Chest: Decline presses or dips* (elbows wide; X below middle)	2 x 8-12
Chest (upper): Smith-machine incline presses (X below middle)	2 x 8-12
Delts (medial head): Dumbbell upright rows* (X below middle)	2 x 8-12
Delts (front head): Smith-machine presses* (X middle)	2 x 8-12
Triceps: Dips (elbows in; X middle)	2 x 8-12
Biceps: Undergrip chins (X middle)	2 x 8-12
Brachialis: Incline curls (X below middle)	2 x 8-12

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

For Beginners

Even rank beginners can use any of the Basic workouts to break into bodybuilding (Monday-Wednesday-Friday version is recommended), but you don't want to start out too gung-ho, or you'll do too much muscle damage. Here's how to handle the first few weeks (no X Reps yet):

Week 1: Pick poundages that you can easily get 10 reps with using perfect form. Absolutely no straining. Because these sets are relatively light, you don't need any warmup sets. Do the number of sets listed for each exercise, with a one-and-a-half-minute rest between sets, and then move on.

Weeks 2 and 3: Add a little weight to all of your exercises so that your sets are still fairly easy but harder than your first week. You should still be able to get 10 reps fairly easily on all sets, although the last rep of the last set should be somewhat hard. Once again, no warmup sets are necessary.

Week 4: Add the preliminary warmup set(s) for each exercise with an asterisk, using a weight that is about 50 percent of your heavy (work) sets on the first and 70 to 80 percent on the second. (Lighter exercises may require only one warmup set.) After your warmup set(s), do the work sets listed—one to two, depending on the exercise—pushing until you can't get another repetition with perfect form. You should get eight to 10 perfect reps. Count this as your first real week of training. Stick with that for another four weeks, then you may want to experiment with X Reps on some exercises. Be cautious, however. X Reps are very taxing.

If you're unsure about some of the exercises and/or you'd like a complete and more extensive beginner's program, get the video "Beginning Bodybuilding," available from Home Gym Warehouse, 1-800-447-0008, or visit www.home-gym.com. It's also available on DVD.

CHAPTER 12

Ultimate Direct/Indirect Workout

Direct/indirect training is working each bodypart with at least one exercise that provides residual, or indirect, work for another bodypart. For example, you use undergrip chins as part of your biceps routine, which provides work for your lats. Then, when you work lats at a different workout, you do undergrip pulldowns or chins again to provide residual work for the biceps. That makes biceps day your indirect lat day and lat day your indirect biceps day. How can the same exercise be direct lat work one day and indirect lat work on another? It's simply a matter of which muscle you're focusing on when you do it—you concentrate on pulling with your biceps on biceps day and your back on lat day.

So the trick is to choose the right exercises for every bodypart and to devise a split that doesn't have you training a bodypart two days in a row. In the above example, for instance, you wouldn't work lats the day after you train biceps—you'd want your lat workout to fall at least two days after your biceps day. Complicated? Somewhat. But there are some excellent models that are definitely in the ultimate category. Here's one for those who prefer to train three days per week:

Monday: Quads (indirect hamstring hit), calves (indirect soleus hit), chest (indirect triceps hit), back (indirect biceps and delts hit), abs

Wednesday: Hamstrings (indirect quad hit), delts (indirect traps hit), triceps (indirect chest hit), biceps (indirect lats hit), abs

Friday: Full body

That routine is the first program listed in this chapter and is similar to the first split routine in the Chapter 11, only it's altered slightly to train each muscle more often and with more exercises for each bodypart in order to train every muscle through its full range of motion. More on that in a moment. First let's look at the program.

Ultimate Direct/Indirect Mass Workout 1

(Three days per week: Monday, Wednesday, Friday)

MONDAY: Quads, calves, chest, back and abs	
Quads (indirect hamstrings hit)	
Midrange: Leg presses or squats* (X above middle)	2 x 10-12
Stretch: Feet-forward Smith-machine squats (X above middle)	2 x 10-12
Contracted: Leg extensions (drop sets) (X top)	2 x 7(5)
Calves (indirect soleus hit)	
Stretch: Leg press calf raises* (X above bottom)	2 x 18, 14
Contracted: Standing calf raises (drop sets)(X top)	2 x 10(5)
Chest (indirect triceps hit)	
Midrange: Decline presses* (X middle)	2 x 7-9
Stretch & Contracted: Machine flyes or dumbbell flyes (drop sets)	2 x 7(5)
Midrange (upper): Machine incline presses (X below middle)	2 x 7-9
Stretch & Contracted: Incline dumbbell flyes (drop set)	1 x 7(5)
Back (indirect biceps and delt hit)	
Midrange (lats): V-handle pulldowns* (X middle)	2 x 7-9
Stretch (lats): Dumbbell pullovers	1 x 12
Contracted (lats): Undergrip pulldowns (drop set)(X bottom)	1 x 7(5)
Stretch (midback): One-arm dumbbell rows (X above bottom)	2 x 7-9
Contracted (midback): Bent-over laterals (drop set)	1 x 7(5)
Midrange (upper traps): Close-grip cable upright rows (X middle)	2 x 7-9
Abs	
Midrange: Incline kneeups (X middle)	2 x max
WEDNESDAY: Hamstrings, delts, triceps, biceps, abs	
Hamstrings (indirect quad hit)	
Midrange: Feet-forward Smith-machine squats* (X middle)	2 x 10-12
Stretch: Hyperextensions (X above bottom)	2 x 7-9
Contracted: Leg curls (drop sets) (X top)	2 x 7(5)
Delts (indirect trap hit)	
Midrange: Dumbbell presses* (X middle)	2 x 7-9
Stretch: Incline one-arm lateral raises (X above bottom)	2 x 7-9
Contracted: Dumbbell upright rows (drop sets; X above bottom)	2 x 7(5)
Triceps (indirect chest hit)	
Midrange: Flat-bench dumbbell presses (arms close to torso)* (X middle)	2 x 7-9

Stretch: Overhead dumbbell extensions*	2 x 7-9
Contracted: Kickbacks (drop sets)	2 x 7(5)
Biceps (indirect back hit)	
Midrange: Undergrip chins* (X middle)	2 x 7-9
Stretch: Incline curls* (X above bottom)	2 x 7-9
Contracted: Concentration curls (drop sets) (X top)	2 x 7(5)
Abs	
Contracted: Full-range crunches (X top)	2 x max
FRIDAY: Full body	
Treadmill	15 minutes
Deadlifts* (X on hyperextension bench, below middle)	2 x 8-10
Feet-forward Smith-machine squats* (X middle)	2 x 10-12
Leg curls (drop set) (X top)	1 x 7(5)
Hyperextensions (X bottom)	1 x 7-9
Seated calf raises (X top)	2 x 7-9
Standing calf raises (drop sets) (X top)	2 x 15(7)
Bench presses* (X below middle)	1 x 7-9
Machine flyes or dumbbell flyes (drop set)	1 x 7(5)
Incline dumbbell presses (X middle)	1 x 7-9
Dumbbell upright rows (drop set) (X above bottom)	1 x 7(5)
Dumbbell presses* (X middle)	1 x 7-9
V-handle pulldowns* (drop set) (X middle)	1 x 7(5)
Straight-bar cable rows (X middle)	1 x 7-9
Bent-arm bent-over laterals (drop set)	1 x 7(5)
Pushdowns (drop set) (X bottom)	1 x 7(5)
Cable curls (drop set) (X middle)	1 x 7(5)
Midrange: Incline kneeups (X middle)	1 x max
Contracted: Crunches (X top)	1 x max

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

Note: For those trainees who are unsure about proper performance, photos and exercise descriptions of most of the movements in this routine appear in Appendix A.

Note: Do X Reps on only one set of the exercise they are listed next to, usually the last set.

Here's the five-day-split version:

Monday: Delts (indirect midback hit), triceps (indirect chest hit), biceps (indirect lat hit)

Tuesday: Quads (indirect hamstring hit), gastrocs (indirect soleus hit), upper abs (indirect lower-abs hit), low back

Wednesday: Chest (indirect triceps hit), forearms

Thursday: Hamstrings (indirect quad and lower-back hit), soleus (indirect calf hit), lower abs (indirect upper-abs hit)

Friday: Lats (indirect biceps hit), midback (indirect biceps hit), upper traps (indirect delt hit), brachialis (indirect biceps hit)

Notice that after you train a bodypart directly or indirectly, there's a two-to-four-day period before you hit it again. For example, you train delts on Monday with upright rows, presses and lateral raises, which all hit the midback indirectly. Four days later, on Friday, you train midback, incorporating close-grip upright rows for indirect delt work. Monday, three days later, it's delts again with residual midback work and so on.

While it appears that you're working each bodypart only once a week, every muscle is really getting two hits in each seven-day period. It's similar to the highly effective heavy/light system—direct day being heavy and indirect day being light.

With this strategy, of course, you have to incorporate more exercises. While you still use the ultimate exercise for each muscle, you also work in movements that complete the full-range chain for that muscle. For example, you use undergrip chins for biceps. That's a great stand-alone biceps exercise, but you also should train the muscle in it's fully stretched and completely contracted positions. That means including incline curls for the stretch position and concentration curls for the contracted position. Full-range training is called Positions of Flexion, and it has a number of benefits.

Stretch- and contracted-position movements can help supercharge the ultimate exercises by teaching the muscles to

contract. It's the very reason powerlifters use those exercises as assistance work for the big lifts. Isolation exercises, which describes most stretch- and contracted-position moves, program the target muscle to contract and activate more fibers.

Stretch- and contracted-position exercises provide unique stresses to the muscle fibers, which makes them indispensible for stimulating the quickest size and strength gains. For example, working a muscle at the point of near-maximum elongation (stretch)—stiff-legged deadlifts for hamstrings for instance—has been shown to increase the anabolic receptors on muscle tissue. Stretch overload has also been linked to intra-muscular IGF-1 production, setting up a much more anabolic environment, and hyperplasia, which is fiber splitting (the more fibers a muscle has, the bigger it can get).

As for contracted-position exercises—concentration curls, leg extensions, leg curls and so on—they don't activate as many fibers as compound, or multijoint, exercises, but the fibers they do activate get hammered with more intensity because of continuous tension—the resistance is constant, unlike what happens with exercises like the squat and bench press, on which you can lock out and rest the target muscle.

In addition, a recent study done with tourniquets showed that when a muscle is trained with restricted blood flow, it gets much stronger much faster. If you think about it, that's what happens with isolation movements—when there's continuous tension on a muscle as it works, blood flow is impeded as the muscle goes into continuous-contraction mode.

Training each muscle through its full range of motion with POF is also important in that it can prevent injury. If you don't train a muscle in a certain position—stretch, for example—it's weak in that position and you're more apt to injure yourself because of the weak area in the range of motion.

The individual bodypart routines contain the ultimate exercises along with additional movements that complete the full-range POF chain for each muscle. Pick the program that best suits your time constraints.

Ultimate Direct/Indirect Mass Workout 2

(Three days per week: Monday, Wednesday, Friday)

MONDAY: Delts, triceps, biceps, upper abs	
Delts (indirect trap hit)	
Midrange: Dumbbell presses* (X middle)	2 x 7-9
Stretch: Incline one-arm lateral raises (X above bottom)	2 x 7-9
Contracted: Dumbbell upright rows (drop sets) (X above bottom)	2 x 7(5)
Triceps (indirect chest hit)	
Midrange: Dumbbell decline presses (arms close to torso)* (X middle)	2 x 7-9
Stretch: Overhead dumbbell extensions*	2 x 7-9
Contracted: Kickbacks (drop sets)	2 x 7(5)
Biceps (indirect back hit)	
Midrange: Undergrip chins* (X middle)	2 x 7-9
Stretch: Incline curls* (X above bottom)	2 x 7-9
Contracted: Concentration curls (drop sets) (X top)	2 x 7(5)
Abs	
Contracted: Full-range crunches (X top)	2 x max
WEDNESDAY: Quads, calves, chest, lower abs	
Quads (indirect hamstrings hit)	
Midrange: Leg presses or squats* (X above middle)	2 x 10-12
Stretch: Feet-forward Smith-machine squats (above middle)	2 x 8-10
Contracted: Leg extensions (drop sets) (X top)	2 x 7(5)
Calves (indirect soleus hit)	
Stretch: Leg press calf raises* (X above bottom)	2 x 18, 14
Contracted: Standing calf raises (drop sets)(X top)	2 x 10(5)
Chest (indirect triceps hit)	
Midrange: Decline presses* (X middle)	2 x 7-9
Stretch & Contracted: Machine flyes or dumbbell flyes (drop sets)	2 x 7(5)
Midrange (upper): Machine incline presses (X below middle)	2 x 8-10
Stretch & Contracted: Incline dumbbell flyes (drop set)	1 x 7(5)
Abs	
Midrange: Incline kneeups (X middle)	2 x max

FRIDAY: Hamstrings, back, soleus, brachialis

Hamstrings (indirect quad hit)	
Midrange: Feet-forward Smith-machine squats* (X above middle)	2 x 10-12
Stretch: Hyperextensions (X above bottom)	2 x 7-9
Contracted: Leg curls (drop sets) (X top)	2 x 7(5)
Back (indirect biceps and delt hit)	
Midrange (lats): V-handle pulldowns* (X below middle)	2 x 7-9
Stretch (lats): Dumbbell pullovers	1 x 12
Contracted (lats): Undergrip pulldowns (drop set) (X bottom)	1 x 7(5)
Stretch (midback): One-arm dumbbell rows (X bottom)	2 x 7-9
Contracted (midback): Bent-over laterals (drop set)	1 x 7(5)
Midrange (upper traps): Close-grip cable upright rows (X middle)	2 x 7-9
Lower back	
Midrange: Deadlifts* or stiff-legged deadlifts* (X on hyperexension bench, middle)	2 x 7-9
Soleus	
Contracted: Seated calf raises* (X top)	2 x 12-15
Brachialis (indirect biceps hit)	
Midrange: Covered with midrange lat work	
Stretch: Incline hammer curls* (X above bottom)	2 x 7-9
Contracted: Rope hammer curls (X top)	2 x 7-9

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

Note: For those trainees who are unsure about proper performance, photos and exercise descriptions of most of the movements in this routine appear in Appendix A.

Note: Do X Reps on only one set of the exercise they are listed next to, usually the last set.

Note: You should do some cardio work—outdoor running or treadmill—on Sunday for indirect quad and calf work, if possible. If that's not possible, try to do the treadmill for 15 minutes before your Monday workout as a warmup and for residual quad, calf and soleus work.

Ultimate Direct/Indirect Mass Workout 3

(Five days per week: Monday through Friday)

MONDAY: Delts, triceps, biceps	
Deltoids (indirect midback hit)	
Midrange: Dumbbell or barbell presses* (X middle)	2 x 7-9
Stretch: Incline one-arm lateral raises (X above bottom)	2 x 7-9
Contracted: Dumbbell upright rows (drop set) (X above bottom)	2 x 7(5)
Triceps (indirect chest hit)	
Midrange: Close-grip decline bench presses or dips* (X middle)	3 x 7-9
Stretch: Overhead extensions	2 x 7-9
Contracted: Kickbacks or one-arm pushdowns (drop set)	2 x 7(5)
Biceps (indirect lat hit)	
Midrange: Undergrip chins or pulldowns* (X middle)	3 x 7-9
Stretch: Incline dumbbell curls (X above bottom)	2 x 7-9
Contracted: Nonsupport concentration curls (drop set) (X top)	2 x 7(5)
TUESDAY: Quads, calves, lower back, upper abs	
Quadriceps (indirect hamstring hit)	
Midrange: Squats or hack squats* (X above middle)	3 x 7-9
Stretch: Feet-forward Smith-machine squats (X above middle)	2 x 7-9
Contracted: Leg extensions (X top)	3 x 7-9
Calves (indirect hamstring and soleus hit)	
Stretch: Leg press calf raises (X above bottom)	2 x 18-20
Contracted: Standing calf raises (drop set) (X top)	3 x 12(8)
Lower back	
Midrange: Deadlifts (X on hyperextension bench, below middle)	2 x 10-12
Upper abdominals (indirect lower-abs hit)	
Midrange: Situps (X middle)	2 x 10-12
Stretch & Contracted: Ab Bench crunch pulls or full-range crunches (drop set) (X top)	2 x 9(6)
WEDNESDAY: Chest, forearms	
Lower chest (indirect triceps hit)	
Midrange: Decline barbell or dumbbell bench presses* (X below middle)	3 x 7-9
Stretch & Contracted: Cable crossovers (drop set) (X bottom)	2 x 7(5)
Upper chest (indirect triceps hit)	
Midrange: Incline barbell or dumbbell presses* (X middle)	2 x 7-9
Stretch & Contracted: Incline cable flyes (drop set) (X bottom)	2 x 7(5)

Forearms	
Extensors: Reverse wrist curls* (X middle)	2 x 10-15
Flexors: Wrist curls* (X middle)	2 x 10-15
THURSDAY: Hamstrings, soleus, lower abs	
Cardio (indirect calf hit)	
Treadmill	15-20 minutes
Hamstrings (indirect quad and lower-back hit)	
Midrange: Feet-forward Smith-machine squats*	
(X above middle)	3 x 7-9
Stretch: Stiff-legged deadlifts*	2 x 7-9
Contracted: Leg curls (drop set) (X top)	2 x 7(5)
Soleus (indirect calf hit)	
Contracted: Seated calf raises (X top)	3 x 7-9
Stretch: Donkey calf raises	
or leg press calf raises (drop set) (X above bottom)	2 x 15(7)
Lower abdominals (indirect upper-abs hit)	
Midrange & Lower Contracted:	
Hanging or incline kneeups (X middle)	3 x 7-9
FRIDAY: Midback, upper traps, brachialis	
Lats (indirect biceps hit)	
Midrange: V-handle pulldowns or chins* (X middle)	3 x 7-9
Stretch: Dumbbell pullovers	2 x 7-9
Contracted: Undergrip bent-over rows	
or undergrip pulldowns (drop set)	2 x 7(5)
Midback (indirect biceps hit)	
Midrange: Covered with lat work	
Stretch: One-arm dumbbell rows or close-grip cable rows	
(X bottom)	3 x 7-9
Contracted: Bent-over bent-arm laterals (drop set)	2 x 7(5)
Upper traps (indirect delt hit)	
Midrange: Close-grip upright rows (X middle)	3 x 7-9
Stretch & Contracted: Dumbbell shrugs (drop set)	2 x 7(5)
Brachialis (indirect biceps hit)	
Stretch: Incline hammer curls (X above bottom)	2 x 7-9
Contracted: Hammer curls (drop set) (X top)	2 x 7(5)

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

Note: Do X Reps on only one set of the exercise they are listed next to,

So which program should you choose out of the three? That depends on your experience, motivation and time constraints. If you've been training consistently for more than a year, you'll probably make the best gains with #3, the five-day routine; however, you can make very good gains with the other two as well if you can't get to the gym five times every seven days. The big reason the five-day program works best for most is because you only have to focus on two to three bodyparts at each workout. That's a definite advantage. Training with weights five days a week also keeps your metabolism running hot, which means you keep the fat-burning fires stoked.

The advantages of the three-day programs include more recovery. Some people need a day off after every training session for the nervous system to regroup and to replenish glycogen stores in the muscles and liver. Once again, it's specific to the individual. Nevertheless, the best choice for you may simply come down to time. Don't commit to the five-day program if you know you're going to miss workouts. It's better to be consistent, as regular workouts keep the muscle mass coming.

What if you want to try each one? In that case, start with a basic workouts from Chapter 11. Stick with it for six weeks, then take four to seven days off from the gym and begin the three-day Ultimate Direct/Indirect Workout 1. Stay with that program for six weeks, then take four to seven days off. From there move to the three-day Ultimate Direct/Indirect Workout 2. Once again, stay with it for six weeks, then take four to seven days off. Now go to the five-day Ultimate Direct/Indirect Workout 3 and follow the same six-weeks-on/four-to-seven-days-off protocol.

That will give you a good feel for each of the routines and help you decide which one you liked best—or at least which one worked best for you. There's no denying that you'll have to put out some effort. Just keep reminding yourself that the harder you work, the more new muscle you build, and that's well worth the sweat. The looks and comments you'll get due to your rock-solid physique will make you proud!

Ah, what about X Reps on the stretch- and contracted-position exercises? Well, we know what the most important point is in the stroke for each of those exercises—full elongation on stretch-position exercises and full contraction on contracted-position exercises. Therefore, you should do your X Reps close to those points.

For example, on incline curls, a stretch-position exercise for biceps, when you can no longer do full reps, you pulse just above the stretch position. On concentration curls, the contracted-position movement for biceps, once you hit failure, use your free arm to get the dumbbell up into the contracted position and pulse at that key point. While we made the argument that elongation is important for max force production on X Reps, you already get that on midrange and stretch exercises. So X Reps in the contracted position will provide another unique muscle-building stimulus.

If you train alone, it may be impossible to get the weight back up to the contracted position when you reach failure on a contracted-position exercise. For example, on leg extensions you may be able to get the foot pad only halfway up. In that case, do your X Reps at that point. You'll still get significant muscle-fiber recruitment benefits. Remember, many researchers believe that the best growth stimulus occurs when the muscle is semi-elongated, so X Reps in the fully contracted position may not be ideal—just unique.

Note: X Reps aren't included for some exercises, either due to injury potential or awkwardness. For example, overhead extensions for triceps can put the elbow joint in a precarious position and doing X Reps at the bottom could magnify that danger. An example of an awkward exercise for X Reps is kickbacks. Your leverage is significantly diminished at the top of kickbacks so you can't continue with X Reps at failure; however, you could immediately move to a lighter weight and continue with an X-Reps-only set in the top position. That's only slightly inferior due to the rest you get moving to a lighter weight—you lose out on the benefit of continuous tension.

Ultimate Mass Workout Tips and Reminders

1) 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.

2) Stop a few reps short of failure during week 1 when you start a new program. After that, push your work sets to positive failure—until you can't do another rep with good form. Do X Reps on only the last set of any exercise.

3) The ideal rep speed is two seconds up and two seconds down; always keep your form strict.

4) Rest one to 1 1/2 minutes between sets.

5) When you can get the higher number listed in the rep range of each exercise, increase the weight enough at the next workout to bring your reps down to the lower number.

6) If you're using the five-day program, and you forsee only being able to train three days one week, use one of the three-day programs that week. That's much better than skipping one of the sessions in the five-day program.

7) After six weeks on a routine, take four to seven days off from the gym or reduce your intensity (stop all sets short of failur and eliminate X Reps), and then start a new program.

8) 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 failure, striving for the number of reps listed in parenthesis. The drop-set technique is another way to increase the tension time on fast-twitch fibers for a considerable uptick in hypertrophy.

Note: You can print the routine you're using and take it with you to the gym on a small clipboard so you can keep track of your exercise poundages and reps. For example, writing 200 x 7 next to an exercise designates 200 pounds for seven reps.

Ultimate Hit for Lagging Muscles: The Direct/Semi-Direct Strategy

Some bodyparts will be sluggish on a direct/indirect workout schedule because they need more direct work twice a week—but that doesn't mean you have to abandon the strategy. Instead, simply make the indirect workout a little more direct. For example, if you have lagging quads, after you train them indirectly during hamstring work, with feet-forward Smith machine squats, do one or two sets of leg extensions. If you really want to zero in on them, do the leg extensions one leg at a time for stronger contractions—and you may even want to use drop sets.

It's best to use a contracted-position exercise at that semi-direct workout so you isolate the lagging muscle and attack it with continuous tension. Here's another example: Say your chest is lagging. After you train it indirectly on triceps day with close-grip bench presses, add in a set or two of cable crossovers. Or if your delts are the problem, add two sets of lateral raises after upright rows on trap day.

It's best to use that direct/semi-direct method for no more than three bodyparts, or your workouts will start getting excessive and could trigger overtraining.

Our X-Rep Program

As you saw in Chapter 1, we used the X-Rep method for about a month prior to our '04 photo shoot with spectacular results. Once we introduced that technique, our gains skyrocketed. We did have to decrease the volume of our bodypart workouts to compensate for the significant intensity increase causes by X-Rep training, but that meant shorter workouts and more recovery, or grow, time.

For about two months prior to our X-Rep experiment we were using a five-days-per-week program similar to The Ultimate Direct/Indirect Mass Workout 3 in this chapter, but with more sets per bodypart, more drop sets and no X Reps. Once we decided to X up our intensity, we redesigned our split to accommodate an X-Rep set for almost every exercise and reduced our volume. The before and after photos throughout this book show the incredible progress we made in that one month with X Reps, and the exact routine we used is on the next few pages. We trained five days per week: Monday, workout 1; Tuesday, workout 2; Wednesday, workout 3; Thursday, workout 1; Friday, workout 2. Workout 3 would be on the following Monday. Then Tuesday, workout 1; Wednesday, workout 2; Thursday, workout 3; Friday, workout 1. Now workout 2 falls on the following Monday. And so on. Out of the three workouts, two get trained twice a week, and one gets trained once—and it rotates every week. For example, the first week, workout 3 (chest, midback, biceps and forearms) only occurs once. The next week it occurs twice and workout 2 (quads, hams, gastrocs and abs) occurs only once. It's built in extra recovery for each bodypart every three weeks.

Keep in mind that beginners shouldn't attempt the following program; you should have at least one year of consistent, heavy training under your belt before you try anything close to the X-Rep program we used. It's best to start with one of the basic programs in Chapter 11, work your way up to one of the direct/indirect routines, and then you can try a version of our program.

ITRC X-Rep Mass-Detail Workout

(Five days per week: Monday through Friday)

WORKOUT 1: Chest, lats, triceps, abs	
Chest	
Smith machine incline presses* (X below middle)	2 x 7-9
High-low cable flyes (X above bottom)	1 x 7-9
Wide-grip dips (drop sets) (X middle)	2 x 7(6)
Cable flyes (double-drop set) (X above bottom)	1 x 7(6)(5)
Lats	
Pulldowns* (X middle)	1 x 7-9
Undergrip pulldowns* (X middle)	1 x 7-9
Superset	
Machine pullovers (X top)	1 x 7-9
Undergrip rope rows (X top)	1 x 7-9
Undergrip rope rows (stage, X top, X bottom)	1 x 7-9
Triceps	
Lying extensions (X below middle)	2 x 7-9
Superset	
Cable overhead extensions (X bottom)	2 x 7-9
Bench dips (X near top)	2 x 7-9
Abs	
Hanging kneeups (X middle)	1 x max
Superset	
Hanging kneeups	1 x 7-9
Incline kneeups (X middle)	1 x max
Superset	
Ab Bench crunches (drop set) (X near top)	1 x 10(7)
Twisting crunches	1 x max
Bench V-ups	1 x max
WORKOUT 2: Quads, hamstrings, calves	
Quadriceps	
Hack squats* (X above middle)	2 x 7-9
Leg extensions (X top)	1 x 7-9
Leg extensions (drop set) (X bottom)	1 x 7(5)
Feet-forward Smith-machine squats or leg presses (X above middle)	1 x 7-9
Squats* (X above middle)	1 x 10

Hamstrings	
Leg curls (X top)	1 x 7-9
Leg curls (drop set) (X bottom)	1 x 7(5)
Stiff-legged deadlifts* (X hyperextensions, below middle)	2 x 7-9
Hyperextensions (drop set)	1 x 9(6)
Calves	
Leg press calf raises (X above bottom)	2 x 15-20
Hack machine calf raises (drop set) (X top)	1 x 12(8)
Machine donkey calf raises (X above bottom)	1 x 12
Seated calf raises (X bottom and top)	2 x 10
(Note: We also ran, walked or biked four to seven days a week)	
Lower back	
Lower-back machine (X top and bottom)	1 x 10-12

WORKOUT 3: Delts, midback, biceps, forearms

Delts	
Dumbbell upright rows (X middle)	3 x 7-9
Superset	
Seated laterals (X above bottom)	1 x 7-9
Wide-grip upright rows (X middle and bottom)	1 x 7-9
Smith machine presses (X middle)	1 x 7-9
Seated dumbbell presses (X middle)	1 x 7-9
Superset	
Incline one-arm laterals (X above bottom)	1 x 7-9
Cable laterals (X bottom)	1 x 7-9
Bent-over laterals (drop set) (X near top)	1 x 7-9
Midback	
Machine rows* (X middle)	2 x 7-9
Bent-arm bent-over laterals (drop set) (X middle)	1 x 7(5)
Superset	
Machine shrugs (X bottom)	1 x 7-9
Dumbbell shrugs (X top)	1 x 7-9
Biceps	
Cable curls* (X below middle)	2 x 7-9
Concentration curls (drop set)	1 x 7(5)
One-arm spider curls (X top and bottom)	1 x 7-9

Brachialis (indirect biceps hit)	
Superset	
Incline hammer curls* (X above bottom)	1 x 7-9
Rope hammer curls (X below middle)	1 x 7-9
Forearms	
Superset	
Reverse wrist curls* (X middle)	1 x 10-15
Dumbbell reverse wrist curls* (X top)	1 x 8-10
Superset	
Wrist curls* (X middle)	1 x 10-15
Dumbbell wrist curls* (X top)	1 x 8-10
Forearm rockers (X top)	1 x max

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

Note: Do X Reps on only one set of the exercise they are listed next to, usually the last set.

CHAPTER 13

Ultimate Anabolic Acceleration

In the last chapter you saw how training a muscle through its full range of motion with Positions of Flexion can increase muscle-fiber recruitment, as well as prevent injuries, activate anabolic hormones and accelerate growth. You can amplify the growth benefits with X Reps. The fastest hypertrophy possible is what all bodybuilders are after, and POF is a big piece of the fast-mass puzzle. Another is cranking up the intensity with X Reps on the midrange-, stretch- and contracted-position exercises that are included in POF bodypart routines.

Infusing each set with the most intensity possible will trigger greater growth by activating the most fibers as well as priming the anabolic environment with growth hormone. Researchers believe that GH supercharges the anabolic properties of testosterone, and numerous studies verify its incredible fat-burning effects. You obviously want to keep your output high, so how do you get your pituitary gland to pump out more GH and accelerate the anabolic process? There are three GH-boosting variables to be aware of and implement:

Effort. As James Jamieson, noted pharmacologist and developer of the popular bodybuilding supplement GH Stak, and Dr. Lawrence Dorman, a leader in the field of natural medicine, write in their book *Growth Hormone: The Methuselah Factor,* "Sustained high-intensity exercise increases the quantity and number of pulses of GH release. Intense is the key word here; garden-variety jogging won't do it." That means you need focused effort on the big compound weight-training movements such as squats, rows and deadlifts to affect your GH levels. The Ultimate exercises described in the first 10 chapters of this book are just such exercises—another reason they can be classified as ultimate. Combined with X Reps they are anabolic dynamite.

Muscle stretch. Stretch-position movements—such as stiff-legged deadlifts for the hamstrings, flyes for the pecs, incline curls for the biceps and overhead extensions for the triceps—can produce more muscular force/tension and increase the IGF-1 receptors on the muscles. IGF-1 is a highly

anabolic metabolite that can occur as a direct result of higher GH output. Therefore, incorporating a few sets of a stretch-position exercise for each bodypart can stimulate a greater anabolic response from your training. The direct/indirect workouts in Chapter 12 all incorporate stretch-position exercises for each bodypart. And X Reps make those exercise even more effective.

Muscle burn. In a study published in the *Canadian Journal of Applied Physiology* (22:244-255; 1997), researchers showed a direct correlation between higher blood lactic acid levels and GH release from the pituitary gland. That means the more muscle burn you induce, the more growth hormone you can stimulate. X Reps amp up the burn, but another technique you can use to sear the target muscle is drop sets. It's probably best to do them more on exercises that isolate the target muscle, such as leg extensions for quads and concentration curls for biceps, as they help concentrate the burn due to continuous tension—there's resistance through the entire range of movement with no rest points. Exercises that enable you to lock out and rest at one end of the movement, such as squats, can produce burn, but it's much harder to get one than with single-joint isolation exercises. The programs in Chapter 12 all incorporate drop sets primarily on the contracted-position exercises. Notice that our X-Rep program also incorparates drop sets, double drops and supersets.

For drop sets you do a set to muscular failure and then immediately decrease the weight and do another set of the same exercise to failure, striving for six to nine reps on each set. That technique enables you to extend a muscle's time under tension, much as you do on higher-rep sets, only with drop sets you get the benefit of lower reps as well. That's the key to their effectiveness—a low-rep set that trains the pure fast-twitch fibers and a second set done immediately after to extend the time under tension and provide an endurance component. You train a lot of different fibers with drop sets.

One of the big mistakes trainees make is using weights that

don't allow a set to last long enough to trigger an optimal hypertrophic adaptation. For example, they'll use a work-set poundage that lets them get seven reps with a one-up/one-down cadence—for a grand total of 14 seconds under tension. That's unacceptable if you're looking for significant size stimulation. Most trainees need at least 30 seconds of tension if they want to build muscle—and many hardgainer types, or ectomorphs, can benefit with even higher tension times because of their endurance-oriented muscles. A two/two cadence gets you closer, but that's still only 28 seconds (four seconds times seven reps); however, if you immediately decrease the weight so you can do five more reps at a two/two cadence, you now have 48 seconds, 28 plus 20.

Drop sets are a great form of insurance—they force you to get enough time under tension—and you won't believe the skin-stretching pump they trigger. The drop set at the end of each bodypart routine in the Ultimate workouts in Chapter 12 is a mega-pump inducer that will make your skin as tight as a trampoline—it'll feel as if it's stretched over the throbbing muscle as far as it can go.

So with drop sets you get more intensity, longer tension times, more fiber recruitment and a boost in anabolic hormone production. One other positive benefit is an increase in capillarization. Scientists don't really know how much a veinous network expansion in each muscle contributes to overall size; however, they do know that it contributes, not only to the sheer size of a muscle but also to its function. So a pump can build more capillaries in a muscle, which in turn can give it more girth and also make it more efficient at removing waste products and pumping in needed growth nutrients and fuel, such as amino acids, glycogen and creatine. Don't listen to so-called experts who say a pump is not important.

As far as ultimate anabolic acceleration goes, the drop-set technique is hard to beat, that is, unless you do X Reps at the end of the second set. That's how you really chisel with sizzle.

CHAPTER 14

50 Ultimate Mass Tactics

The following tips will help you get more mass with every trip to the gym. Some of them you already know, but it never hurts to review. Others may click on the light bulb in your brain and the anabolic machinery in your muscles, rocketing you to the land of the bigger, broader and better built. Ready? Prepare to grow much more than ever before!

1) Stretch for size. The direct/indirect workouts in this book include a stretch-position exercise for each bodypart, such as stiff-legged deadlifts for hamstrings, incline curls for biceps and flyes for pecs. If you use a program that doesn't, like the Basic Ultimate Workout in Chapter 11, be sure to do some specific stretches for each bodypart after you train it, as elongating the muscle can increase IGF-1 receptors on the muscles. IGF-1, or insulin-like growth factor 1, is a highly anabolic metabolite that can occur as a direct result of higher GH output. So if you do drop sets, X Reps *and* use stretch-position exercises, you get a GH triple whammy. Remember, muscle burn also triggers more GH.

2) Go longer, get harder. Most bodybuilders' sets stop after about 15 seconds. That can limit gains due to selective fiber involvement. To get at other fibers—more specifically, endurance-oriented fibers of both the red and white variety—increase your time under tension with drop sets, which were explained in Chapter 13, and/or stage sets. To perform stage sets, do the hardest two-thirds of the exercise's stroke to failure and then continue with the easiest one-third to failure. For example, you rep out on the bottom two-thirds of a hack squat, then continue by repping out on the top one-third. Extending the tension time on a few sets per bodypart burns like hell, but it's muscle-building TNT.

3) Hit the brachs for high bi's. If you're looking for more biceps peak, one way to crank up the height is to train your brachialis muscles. That's the muscle that snakes under your biceps and connects to your forearm. By building it, you add to the foundation of the biceps, pushing it to new heights. The best exercises? The MRI machine says incline hammer curls

and narrow-grip straight-bar curls work the brachialis muscles most efficiently.

4) Sweep out your quad routine. Do you need more flare on the outside of your thighs? Then do your extensions with your feet angled slightly inward. MRI and EMG studies both show that angling in the feet forces more involvement from the vastus lateralis muscles, your outer quads. By the way, pointing your toes out forces more work onto the inner teardrop muscle, the vastus medialis.

5) Always curl for fab lower abs. When you do hanging or incline kneeups, don't just move your legs up and down or you'll train mostly your hip flexors, like the psoas muscles. To get the most abdominal involvement, be sure you curl your hips toward your torso at the top of each rep—and do your leg raises slowly, without momentum. If you can't do the incline or hanging version correctly, start on the floor, arms flat next to you. Without creating momentum, slowly pull your feet off the ground and start bending your legs as you pull. As they come toward your chest, curl your hips up off the floor, continuing until you reach the top, knees-into-chest position. After a few weeks move to an incline situp board, head at the high end. Soon you'll be doing hanging kneeups correctly and feeling the burn in your abs as you etch in the detail.

6) Use proper exercise order for phenomenal abdominals. The rule for ab training is to work lower abs first with hanging or incline kneeups (don't forget the hip curl on every rep as described above). Follow that with crunch-type exercises, which focus more on the upper abs. The reason for the rule is that lower-ab exercises, like kneeups, strongly affect the upper abs as well. If you do crunch-type movements first, you exhaust your upper abs and you can't do your lower abs

justice with kneeups because your upper abs will fatigue too fast. Remember, lower-ab work first; then blast your upper abs.

7) Vary, vary heavy sets. Do eight to 12 reps if you want to grow. That's the blanket recommendation bodybuilders get most of the time, and that rep range does hit the majority of the anaerobic fast-twitch fibers. Even so, you shouldn't neglect higher reps—more than 12—or lower reps—five to seven—if you want to max out your growth. The other rep ranges affect the anaerobic fibers differently and may even hit different fibers. Remember, a different anaerobic stress usually equals more growth, so use a variety of rep ranges in your training—or at least use some supersets, drop sets and stage sets to get the high-rep effect. That's the reason drop sets are so important in the Ultimate routines in Chapter 12—you use lower reps, but because the sets are in rapid succession, you get a high-rep effect as well.

8) Loosen your belt. Lifting belts have become a crutch for many bodybuilders. Some even wear a belt when they bench-press. Bad idea. Your midsection can become dependent on a tight belt, making your support muscles weak and unstable. Only use a lifting belt on your heaviest sets and only on exercises that stress your lower back. Otherwise, you may be setting yourself up for an injury from just picking up a bag of groceries. Oh, and never wear your lifting belt when you go out to clubs or parties. That's not dangerous; it just looks stupid. ("Look, here comes Forrest Gump.")

9) Check out hot babes often. Okay, this tip is here as an excuse to include a photo of a sexy gal, but the truth is, sexual arousal helps your gains. Men are visual animals, so it only makes sense that stimulating visualizations will raise

testosterone. Studies verify that fact and make it necessary for you to look at provocative images frequently. Tell your wife or girlfriend it's only to help your bodybuilding. (Yeah, right!)

10) Heat it up. Studies have shown that muscle contraction is quicker and more forceful at elevated temperatures. In other words, a good warmup helps you contract more fibers. The nervous system also benefits, as the nerve receptors and the speed of the nerve impulses are temperature sensitive and improve when your body temperature is higher. To warm up correctly, start your workout with a general warmup, such as calesthenics or stationary biking for a few minutes. Then move to a few specific stretches for the bodypart you're about to train. (Don't do much stretching, however, as some studies indicate that it can loosen muscles and tendons, which can decrease performance.) After that do a light set with about 50 percent of your work weight on your first exercise, rest, then do a second set with about 80 percent of your work weight. Now you're ready for your first heavy work set. Some heavy exercises, like squats and bench presses, may require three progressively heavier warmup sets.

11) Chase the pump. Make sure you get a pump at each workout. True, a lot of experts say the pump doesn't matter, but remember that as the pump increases, so do the capillary beds in the muscle. That makes the muscle more efficient at pulling in growth-promoting nutrients and also increases its size.

That's right, more capillaries equal bigger, more efficient, well-fed muscles. A pump can also help stretch the fascia, or muscle encasements, which allows for more growth. Constricting fascia can restrict fiber expansion. It's one more reason the drop sets in the direct/indirect workouts in Chapter 12 are so important.

12) Get upper-pec respect. Incline dumbbell presses supposedly work the upper chest; however, according to Vince Gironda, the Iron Guru, most bodybuilders target the front delts when they do the exercise with their palms facing forward. Try your inclines with the dumbbells parallel, palms facing in, and check your upper pecs for soreness the next day. Careful, though. If you over do it, you may not be able to brush your teeth without screaming.

13) Crossover to a spectacular chest. Most bodybuilders use crossovers in their chest routines to maximally contract their pecs—but most of the time that max contraction doesn't happen. Why? The pec's function is to bring the upper arm across the torso. With two-arm cable crossovers, your upper arms never get close to moving across the torso; they stop about halfway to full contraction. Try doing alternate crossovers, bringing one arm across your torso, then the other. If you don't like alternating, try working one-arm at a time, or at least cross arms at your wrists during two-arm crossovers to get closer to the fully contracted position for your pecs.

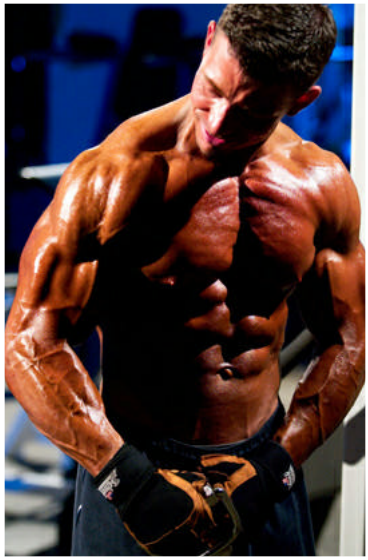
14) Build a support group. The rotator cuff muscles surround the shoulder joint and provide stability and a full range of motion for the ball-and-socket joint. They're easily damaged, however, and if they're weak, they can hamper all of your pressing movements (even ironing your shirts, a very

important pressing movement). In fact, a number of trainees have added pounds of weight to their bench presses just by doing a couple of light sets with a device called the ShoulderHorn. It props up your upper arms parallel to the ground so you can do a rotation movement with a light dumbbell in each hand. If you don't have a ShoulderHorn, do L-flyes. Sit next to a flat bench, place your upper arm on it with a dumbbell in your hand and your forearm perpendicular to the bench. Lower your forearm forward till the dumbbell touches the bench, then rotate it back to the top. It's a simple yet very effective technique for building a bigger bench and preventing shoulder injury. [Note: The ShoulderHorn is available from Home Gym Warehouse, www.home-gym.com or 1-800-447-0008.]

15) Snooze or lose. You gotta get enough sleep, or your body won't have the energy reserves and hormones—like testosterone—it needs to build muscle. One study showed that lack of sufficient sleep can reduce plasma testosterone levels in young men by a whopping 40 percent. Get at least eight hours of restful sleep every night—more if you can swing it. And that includes weekends (most of them anyway; you can't be a complete antisocial musclehead).

16) Use double contractions for bigger muscle reactions. Exercises that have resistance in the contracted position, such as concentration curls and leg extensions, have a lot of potential for unique fiber stimulation because of constant tension. Most bodybuilders don't take advantage of the peak contraction, however. X Reps in the top position at the end of a regular set is one way to emphasize peak contraction. You can also try 1 1/4 reps. On leg extensions, for example, drive the weight to the top, lower a quarter of the way down, drive back to the top again, then lower all the way down. That's one rep. Do an entire set with 1 1/4s for a new muscle-building sensation.

17) Reduce the range to reduce the pain—and injury potential. If you're injured, you can't train to get big, so



avoiding injury is a key mass-building strategy (No, really?). One way to avoid rotator cuff and shoulder-capsule damage is to not relax and fully lock out your arms at the top of pulldowns and the bottom of chinups. Locking out can pull your upper-arm bone away from the shoulder socket, and—bam!—you've got a nagging shoulder injury for the rest of your days. Always stop just short of lockout on these exercises and keep tension in your arms and shoulders.

18) Stretch with a quick hit to get possible fiber splits. On stretch-position movements—such as stiff-legged deadlifts, incline curls, overhead triceps extensions and donkey calf raises—don't pause in the stretch position. By reversing the movement with a quick twitch in the stretch position, you can involve more muscle fibers by activating the myotatic reflex. Animal studies also suggest that stretch overload can trigger hyperplasia, or fiber splitting—and the more fibers you have, the bigger your muscles can get. That means X Reps just above the stretch position at the end of a set may enhance that effect.

19) Use Triple-X training for obscene results. X Reps at one point along an exercise's stroke may not seem like enough or you may adapt to it quickly. A way to move up the ladder of intensity is with the Triple-X technique. To use pulldowns as an example, once you hit failure, have your partner help you lock into the bottom contracted position. Do partial pulses for about three seconds. Slowly release up to the halfway point, and pulse again for three seconds. Release to near the top and pulse one last time. Triple-X Reps extend the time under tension for the target muscle and also train the

nervous system to contract more muscle fibers. A similar strategy, isometric-stop training, was a favorite of Ray Mentzer, Mike Mentzer's brother and the '79 Mr. America. It works, big time!

20) Try static contraction for dynamic gain action. There's a school of thought that says the reason men like Ray and Mike Mentzer, Casey Viator and Dorian Yates made spectacular gains while performing only a few sets per bodypart once or twice a week is due to their ability to contract enormous numbers of muscle fibers during any one set. It comes down to superior neuromuscular efficiency. True, those men are genetic freaks—in a good way—but you can train your nervous system to be more efficient as you strive for freakdom.

Static contraction is a concept popularized by John Little in his book *Max Contraction*. One version of static contraction suggests holding a heavy weight motionless at a key position along the stroke of any exercise to failure, which should occur at 15 seconds with the right weight. At each workout you try to hold the same weight for as long as you can. When you can hold it for 25 seconds, you increase the weight to bring down your hold time to 15 seconds. The best exercises on which to use the technique are contracted-position exercises, such as leg extensions, leg curls and pulldowns. For them you hold the weight with the muscles completely contracted—at the top of a leg extension with knees locked, for example. Once again, your strength should skyrocket, especially if you combine static-contraction training with full-range exercise.

21) Shock your muscles to electrify growth. Some experts believe that muscle soreness indicates that the muscle

has been stressed enough to grow. Soreness is damage, however, so it will only trigger growth if that damage is allowed to completely heal. Negative, or eccentric, exercise is primarily responsible for the microtrauma that causes soreness. For example, walking down a flight of stairs will produce much more soreness in your legs than walking up stairs—even though walking down is easier. Arthur Jones has said that friction in the muscle on the negative stroke may be responsible. Whatever the reason, negative exercise, when used sparingly, can trigger soreness and new growth.

Try ending a bodypart routine with one set of pure negative exercise. On your final set of concentration curls, for example, take a weight that's about 20 percent more than you used on the previous set. Lift the weight with your free arm to the top of the stroke, then slowly lower the dumbbell to a count of six. The weight should be heavy enough to allow you to get about six to eight pure negative reps. Be prepared for a drinking problem the next day—your biceps will be so sore, you may miss your mouth when trying to get a glass to it.

22) Get high and mighty pecs with high flyes. Try raising the bench to about 75 degrees for incline flyes, an upper-chest stretch-position exercise. Most people think that a high incline like that will work the front delts more instead of the upper pecs. That's not true for most trainees. When you do an incline flye, notice that your lower back naturally arches, which places your torso at about a 45 degree angle if the bench is set at 75 degrees. That's perfect for upper-chest work. On the other hand, if you have the bench set lower, say, at 45 to 50 degrees, you turn the incline flye into more of a flat flye as you naturally arch your back—which positions your upper torso parallel to the floor. Cory Everson was one of the first bodybuilders to preach the benefits of a high incline for upper-pec work, and you certainly can't argue with her results. She was Ms. Olympia seven times.

23) Bust a move between sets. Remember the scene in "Pumping Iron" where Arnold is doing concentration curls, his

jagged, mountainous biceps contracting with each upward stroke? What did Arnold do when the set was over? No, he didn't try to terminate Sarah Connor (different movie). He released the dumbbell, shook his throbbing arm and then continued to flex his biceps as he concentrated on the pump and extending the growth ache. Was that just for the cameras? Not according to *IRON MAN* publisher John Balik, who used to train with Arnold. "I remember him always stretching and flexing the worked muscles between sets. He especially like to stretch his lats between sets of chins." Take a tip from the Oak: Use active rest between sets—stretch, contract and massage the target muscle—and maybe you'll sprout out of acorn status.

24) Don't be a rearing jackass on donkey raises. In other words, if you want bigger calves, don't let your torso rise up to increase the angle at your waist to more than 90 degrees. Larry Scott discovered that tip when he changed gyms and thus changed donkey calf apparatuses. He simply couldn't get the same feel from the movement in his new gym, and his calves began to shrink. After some serious observation (probably mixed with some panic—who wants to see calf muscle disappear?) he finally realized that the platform he was resting his elbows on was too high and he was performing the exercise with his torso above 90 degrees. When he lowered his support platform, he got more calf stretch and the searing calf burn returned with a vengeance—as did his hard-earned calf size.

25) Work in for out; out for in. IFBB pro Bob Cicherillo had a number of interesting training observations in his interview, "X-Frame Training," which appeared in the July '02 *IRON MAN*. One was his in-for-out/out-for-in concept. Here's how he explained it: "For example, to work outer biceps for peak, use an in, or close, EZ-curl grip. To work inner biceps for size and full development, work out, or with a wide grip. To work outer quads for sweep, use an in, or close, foot stance—but still point your toes out [by the way, Bob has incredible

outer-quad sweep]. For inner quads work out, or with a wide stance. And contrary to popular opinion, I think wide-grip pulldowns and chins build the inner back and close-grip pulldowns and chins build a wide back."

26) Take three steps forward, then a half step back. After six to eight weeks of hard training, back off on the intensity for a week or two or take four to seven days off from the gym. That will allow your nervous system to heal and your recovery ability to regroup so you can ratchet up the intensity again without overtraining. In other words, you can take three more growth steps forward instead of having your feet stuck in no-grow quicksand.

27) Beware of the force. No, this has nothing to do with Darth Vader but, rather, forced reps, especially the slo-mo variety. That intensity technique can overstress your nervous system, give you the all-over shakes and cause cortisol to erupt into your system like Old Faithful. Cortisol is a stress hormone that's been linked to everything from memory loss to cancer, and it also causes your body to cannibalize its own muscle tissue. Use forced reps sparingly, especially if you're a hardgainer, as hardgainers are likely candidates for overactive cortisol production. X Reps are a better choice than forced reps because the partial pulses are less traumatic to the nervous system and hit the muscle at the precise point for max fiber recruitment—no wasted effort.

28) Decatabolize aerobic exercise. Many experts suggest doing aerobics the first thing in the morning on an empty stomach to enhance fat burning. If you're using that as a

fat-loss strategy, you may be concerned about burning muscle during your fasted cardio sessions as well. A whey-protein drink will do the trick, but that many calories can defeat your fast. Instead, you may want to take a few amino acid capsules. That can prevent muscle loss—your body has circulating aminos so it has no reason to burn muscle tissue—and you won't lose the accelerated fat burning of the fasted state.

29) Blow out the air to etch in the detail. A lot of bodybuilders don't breathe properly when doing a set, which can interfere with rhythm, performance and muscle gains. You should breathe in on the negative stroke, then exhale at the hardest point on the positive stroke as you drive through each rep. It's why karate men kiai when they punch—to focus their power. (Try to avoid screaming like a karate man toward the end of your sets, however; you don't want to get thrown out of the gym.)

Proper breathing is especially important during ab work. You need to have all the air out of your lungs when you reach the contracted position because your abs can only contract completely when your diaphragm is empty. For example, if you still have air in your lungs at the top of a crunch, hold the position and blow out the rest of it as you contract your abs. You'll feel it—as if your abs are being etched with a blowtorch.

30) Go the distance for awesome abs. Standard on-the-floor crunches are only half an ab exercise. Think about it. If your upper torso could move past the plane of the floor so your lower back was arched, you'd reach a full-stretch position for the rectus abdominis. That important stretch position, which helps you activate more fibers for better development, is impossible to reach when you do crunches on a flat surface, and you limit full-range strength and muscle development. To get the arch on crunches, try doing them on a bench press bench, your feet resting on a bar that's across the uprights, your knees bent, and your upper back hanging off the end of the bench. Now crunch up.

You can also do cable crunches, kneeling, facing away from

the pulley, holding the cable handle behind your head and with your partner providing lower-back support so you can arch. Or you can do cable crunches sitting on a preacher bench. Set the arm-support part of the bench low so you can use it for lower-back support, allowing your upper torso to arch back slightly on each rep. Of course, the best alternative is the Ab Bench, which makes full-range ab work comfortable—and it's easy to add resistance thanks to the plate holder and cable apparatus. [For more information on the Ab Bench, call Home Gym Warehouse at 1-800-447-0008 or visit www.home-gym.com.]

31) Get in the groove with heavier warmups. Many bodybuilders do warmup sets for a specific exercise with 50 to 60 percent of their work-set weight. The problem is, when you almost double the poundage for the first work set, it's a gigantic shock to the nervous system, and you may get poor performance. It's much better to do one warmup set with about 50 percent and then up the weight to about 80 percent for four or five reps. That way your nervous system is better primed, and the jump to 100 percent won't shock it into balking early.

32) Use mints for more might. Participants in a recent study did more pushups to exhaustion, ran faster and showed more grip strength when they had peppermint strips under their noses than another group that didn't use the strips. Although the researchers aren't certain, they think that smelling the peppermint during physical activity may have

stimulated the central nervous system, and that led to a feeling of increased motivation, improved mood and ultimately improved performance. You may want to try eating mints during your workout—or at least chewing peppermint gum. The refreshing smell might give you an edge for more strength and muscle—and your partner will stop suggesting that you floss, brush and gargle before training.

33) Torch all heads of your tri's for more arm size. According to MRI studies, overhead dumbbell extensions (stretch position) put maximum heat on all three triceps heads when you use two dumbbells simultaneously. The same movement done with a bar instead of dumbbells ignites only the lateral and medial heads, leaving the long head lagging behind. The reason the dumbbell version may be more effective is that your palms are facing each other. More proof that varying your grip can have a substantial effect on target-muscle stimulation.

34) Do some homework. Even if it's just a set of selectorized dumbbells, like the PowerBlock, and an adjustable bench—or a more sophisticated setup like an Olympic set, power rack and machines—a home gym can help you build more size and strength. If you don't feel like heading into a sea of sweaty bodies at the commercial facility—or you just feel

like training in your underwear—go home and do a basic full-body session, Fruit of the Looms optional. Improvisation can be a great motivator, so you may just have one of your best workouts ever—unless you pinch a vital bodypart between two dumbbells (be extremely cautious training in the buff!).

Another tactic is to work your smaller bodyparts, such as arms and delts, at home, every week and save the big stuff for the commercial gym. A change of scenery can give you more motivation and greater gains. For ideas, see *IRON MAN's Home Gym Handbook*, available from Home Gym Warehouse, 1-800-447-0008 or www.home-gym.com.

35) Step away from the machine. Studies have shown that the eccentric, or negative, part of a repetition is the most important for stimulating growth. Unfortunately, when you use machines that have a weight stack, the negative stroke is lighter than if you were using free weights. That's because friction, as the weight stack moves down the guide rods, lightens the load. Even worse, the friction makes the positive harder than if you were using free weights, so you get a harder positive and an easier negative. That's not good if the negative is the most important part.

The bodypart that suffers most often from negative neglect is calves because most people use a calf machine or leg press that has a weight stack. Your calves are already good at minimizing loads and cheating weights up, thanks to all the walking you do, so to make them grow, you have to maximize the stress you put on them in the gym, especially the negative.

Try doing one-leg calf raises with a dumbbell as your first calf exercise—and try to use a true two-seconds-up/two-seconds-down cadence without bouncing. Giving your calves a heavier negative and a controlled stroke may be just the growth jolt they need for a new size surge. Oh, and don't forget the X Reps.

36) Get more pec punch from presses. A lot of trainees feel bench presses and incline presses more in their front delts and triceps than in their chest muscles. The reason is that they

don't set up properly before performing those exercises. As you grip the bar, pull your shoulders down and back by pinching your scapulae together and push your chest out. Do your presses with that scapulae retraction for better pec contraction. Try it on flyes and crossovers as well to remove some front-delt stress.

37) Stretch for strength. You've already seen how including stretch-position exercises, like stiff-legged deadlifts for hamstrings, in your workout can increase anabolic hormones for new growth. Also, stretching after you finish working a bodypart can increase strength. In one study, discussed by Jerry Brainum in "Stretching—the Truth" in the June '00 *IRONMAN*, subjects showed a 54 percent strength increase when they stretched after a weight workout as compared to only a 29 percent gain in those who didn't stretch. You may not like freehand stretching (we hate it), so here's an alternative: When you finish the last set of your last exercise for a bodypart, do one extra set of a stretch-position exercise for that bodypart, but don't do it in standard pistonlike fashion. Instead, hold the stretch position of each rep for five seconds. Do five or six reps. That extra stretch/pause set allows you to stretch at the end of each bodypart workout, build more strength and get the bonus of augmenting the pump.

38) Get more tension for on-target pec training. When Arnold did flyes, he'd get a monster stretch in his pecs, but he also discovered that he lost a lot of pec innervation, or feel, at the top of the stroke because his pecs relaxed. His solution was to stop the upward movement of the dumbbells when they were about 1 1/2 feet apart so he kept tension on his pecs throughout the exercise. That keeps constant tension on the pecs and enhances the most important part of the stroke.

39) Lie down and cross over to more pec development. When doing cable crossovers, many bodybuilders cave in their chest cavity, which brings in too much front delt. You need to keep your chest high and forced out during crossovers to get the most pectoral involvement. If

you have trouble holding that position, or you simply need a good variation, hook the handles to the low attachments, pull a decline bench between them and do decline cable flyes. It's almost the same movement as cable crossovers, only you're on a decline bench, which will keep you from cheating and make it much easier for you to maintain the chest-high position. This exercise was a Vince Gironda favorite for shaping great pecs.

40) Jot it down to jog your gains. Keeping a training journal, with your sets, reps and weights for every exercise, seems like a no-brainer, but how many bodybuilders do you see at the gym just winging it? Lots. In fact, too many, which may be one reason so many guys look the same year after year. Seeing your weights and reps on paper before a set motivates you to try to better your last workout. It also tells you if you're getting stronger—if you're not, you may need a change or some time off or both. Bottom line: A training journal is essential if you want to make the fastest gains possible.

41) Take a trip down basics lane to race toward new muscle gain. Workouts can get complicated. You add an isolation exercise here, you start doing supersets there, and then you say, What the hell, and you try to incorporate every technique in this chapter into your routine. Hey, chill out. A better strategy may be to try streamlining your workout. Do one compound exercise for each bodypart for three sets or so of eight to 12 reps—the Basic Ultimate Workout 1 or 2 in Chapter 11, for example. Rest one to two minutes between sets, depending on the exercise, and

try to increase your strength on each movement. After four to six weeks on your back-to-basics routine, go to one of the direct/indirect Ultimate workouts in Chapter 12. Incidentally, basics-only workouts are great for size and strength building during the winter months.

42) Breathe deep, grow massive. You've no doubt read about it, but have you honestly given it a try—supersetting high-rep squats and pullovers, that is? Some claim gains of 20 to 30 pounds in six weeks. One reason the combo works so well is something called hypoxia, or oxygen debt. That can increase red blood cells to make the metabolism more efficient—as in sending growth nutrients and anabolic compounds to the muscles. Then there's the extended tension time on the big quad and glute muscles during squats, a real growth getter. To flip on the anabolic switch, do 20 reps on your squats, taking a few deep breaths between reps—after every one. When you reach 20—no doubt in excruciating pain—crawl over to a bench and do pullovers, breathing deeply on each rep (you won't be able to help it after the squats, believe us!). Oh, and don't worry, your lungs won't explode—but your overall growth certainly will.

43) Try one-sided workouts. Studies suggest that you're stronger when you perform one-arm and one-leg movements than when you use both limbs at the same time. You get a better nerve response from the working muscle. That means you should do a unilateral exercise for each bodypart, or at least your weak bodyparts, to stimulate more muscle growth. Some examples are one-leg leg extensions, one-arm dumbbell rows, one-arm preacher curls, one-leg calf raises and triceps kickbacks.

44) Home in on pec contractions, no machines necessary. If you train in a bare-bones home gym with only barbells and dumbbells, it can be hard to work your chest in the contracted position. You maximally contract your pecs when your upper arms are out in front of your torso with your arms straight and your hands together, and most bodybuilders finish off their pecs in that position with cable crossovers. If you don't have a crossover machine or pec deck, the next best thing is to end your chest routine with hands-together pushups and squeeze your pecs hard at the top of each rep. You can use them regular style or do them with your feet elevated on a bench to get more upper-chest involvement. If you're really fatigued and can't muster enough reps, you can lean forward with your hands close together on a bench-press bar and do angled close-grip pushouts. Don't forget to squeeze those pecs at the top.

45) Polish your diamonds. To get coveted diamond-shape calves, you have to hit the inside of the gastrocnemius muscle. To hit the inside fibers so the muscle juts out like the side of a finely cut stone, you have to do calf raises by pushing more with the big-toe side of your foot. Lots of bodybuilders have trouble doing that; they tend to roll the foot out as they come up and end in the contracted position with more pressure on the little-toe side. If you're a victim of the outside roll on calf raises, try widening your stance—with your feet wider than shoulder width—and keep your feet pointing straight ahead. That should force you to come up on the big-toe side of your feet every time.

46) Rock your way to bigger, stronger forearms. Many bodybuilders don't train their forearms with direct exercise because they either feel they get enough indirect work with all the gripping and hanging they do on chins, curls, rows and so

on or they don't have time. Well, forearm strength can ehnace your power on other exercises, such as curls, which in turn will help you build bigger biceps.

Do some direct forearm work, for gosh sakes! You say you don't have time? Do forearm rockers at the end of your biceps workout, and you'll only add about two minutes to your session. To do them, stand holding a dumbbell in each hand with your arms hanging down and the dumbbells next to your thighs, pointing forward. Contract your forearm flexors, curling the dumbbells toward your body as high as possible. Then reverse the movement, taking them up away from your body as high as possible to contract your forearm extensors. Do that till you can't hold the dumbbells any longer (rack 'em quickly, or you could end up with bruised, aching feet). Pick a weight that has you screaming after about 45 seconds—and stay close to the rack. After a few weeks do a drop set to trigger new adaptation. X Reps can work on rockers as well, but you may have to reduce the weight to do them for the outward portion.

47) Avoid pain relievers that include ibuprofen and acetaminophen (Tylenol). A recent study in the *Journal of Applied Physiology* reported that while a placebo group showed a 76 percent increase in muscle protein synthesis 24 hours after an eccentric workout, the ibuprofen and acetaminophen group had completely blocked muscle-protein-synthesis rates. If you're suffering from joint pain—no, not marijuana withdrawal; joints between bones—you may want to try glucosamine and chondroitin supplements instead to strengthen and build that tissue. Vitamin C can help your joints as well. (Smoking pot does nothing for joints, but it can help you bulk up. Got any Dorritos, dude?)

48) Crank up the tunes. Many studies, including one published in the *International Journal of Sports Medicine*

(19:32-37; 1998), show that music appears to aid exercise by blunting body perceptions of pain. That means you can train harder. Studies show that subjects prefer faster and louder sounds, so throw on the latest AC/DC CD and crank it up to 10, or if you're listening to Spinal Tap, 11.

49) Relax, musclehead! If you want to increase your testosterone levels outside the gym, you might try calming down. A study reported by the *American Journal of Epidemiology* said that aggressive type-A behavior can lower testosterone. Research from the University of Pittsburgh indicates that impatience and being extremely competitive have a significant impact on lowering testosterone as men age. The researchers suggest that the reason for the decrease may be an increase in cortisol, which suppresses testosterone. Yet another reason to take a phosphatidylserine supplement to keep cortisol in check. That goes double for high-strung hardgainers—and Sean Penn when he's around photographers.

50) Train in heat. No, that doesn't mean to work out when you're sexually aroused—although that could help increase testosterone (just be careful on pushdowns). It means to keep your gym temperature warm, not cold. In other words, crank down the AC. Vince Gironda was notorious for keeping his gym sweltering during the summer because he believed it helped promote muscle gains (or maybe he was just rationalizing his cheapness). He was right. In a study reported in the *International Journal of Sports Medicine* (19:1-6; 1998), researchers found that hot-weather training not only helps prevent injuries but also increases the force of muscular contraction. Warmer internal muscle temperatures increase oxygen delivery to muscle as well, and that in turn sparks energy reactions in muscle that results in increased force coupled with decreased fatigue. Training in heat is kind of like getting a built-in warmup.

Training in heat, X Reps, pumping—with all that innuendo, your testosterone should be soaring. Now hit the gym to make the best of it.

CHAPTER 15

Ultimate Mass Nutrition

The only way to make your workouts pay off—no matter how ultimate they are—is to eat right, eat often and eat enough of the right stuff. The following are some tips to help you keep your get-big nutrition on the right track.

1) Get that high-pro grow. It's fundamental, but it bears repeating: You gotta eat six meals a day, and each one should contain 20 to 40 grams of protein. Use meal replacements in a thermos, carry a bag of nuts, stop at the 7-Eleven for some yogurt or cottage cheese, scrape the bugs off your windshield—whatever it takes. If you don't want to slip into catabolic mode and burn the muscle you work so hard to build, feed your muscles aminos six times a day. Period. Hunger pang? Nope, that's your muscle-melting incinerator firing up. Eat immediately! When your stomach is churning, muscle is burning.

2) Fling open the anabolic window. Immediately after your workout—no, you don't have time to flirt with the new counter girl—have a shake made with straight whey protein or hydrolyzed whey (an even faster-absorbing protein source than straight whey) and simple carbs. Go for about 60 grams of carbs and 40 grams of whey. Right after you train, your muscles are ready to absorb nutrients like brand-new sponges. It's the most important mass-building meal of the day, so don't miss it. Get a fast-absorbing protein in your gut, and shoot up your insulin to intensify the drive. [Note: Muscle-Link's postworkout supplement RecoverX has the right ratio of fast protein to fast carbs. For more informaton visit www.muscle-link.com or call 1-800-667-4626.]

3) Add muscle in your sleep. Did you know that sleep can be extremely catabolic? And you thought nighttime was grow time. Well, it can be if you drink a micellar casein-and-whey-protein drink before bed, which can help prevent the stress hormone cortisol from ravaging your muscles while you snooze. The casein is slow absorbing, so it will help trickle amino acids into your bloodstream as you saw those logs. The amino trickle signals your body that there's no need for muscle

wasting. Keep in mind that whey is okay, but it will be in and out of your system in a matter of hours. For best results, make your nightcap with micellar casein and whey for that all-important trickle-feed muscle-building effect.

4) Carb up to build up. Carbs feed your body glycogen, which is stored in your muscles and liver as an energy source. That means when your glycogen stores are full, you feel strong, have better workouts and get better pumps. Glycogen also forces your muscles to hold more water, which translates to bigger, fuller bodyparts (the ones you train in the gym, not that other one). Eat some carbs at every meal with your protein if you're trying to build muscle. If you're dieting, you may want to get most of your carbs in the meals you have before and after your workouts. That's known as carb stacking. [For an example, see the Get-Ripped Carb-Stacking Diet in *Train, Eat, Grow*.] Incidentally, the body stores 300 to 400 grams of glycogen (carbs). The amount of carbohydrates you should eat each day depends on how much you burn. If you lift weights and/or perform cardio, you may need to eat more than 200 grams of carbs in a 24-hour period to replenish what you burned and keep your body functioning normally (your brain needs carbs too).

5) Eat more meat to keep packing on beef. Meal replacements are great, but you need real food, too, if you want to grow as fast as possible—specifically meat. That includes chicken and fish, but don't forget about red meat. It's loaded with quality protein and testosterone-building nutrients. And grass-fed beef is low in saturated fat and high in the essential fatty acids, which add to the testosterone-building effect. Eat beef twice a week—more often if you can get your hands on grass-fed beef and bison. [For more information on grass-fed meat, visit www.eatwild.com and www.northstarbison.com.]

6) Eat more fat. You read that right. Studies show that diets

in which less than 20 percent of total calories come from fat can cause a decrease in testosterone. Be sure you're getting enough fat in your diet, specifically the good essential fatty acids, or EFAs. Those are the building blocks of testosterone, and as the late steroid guru Dan Duchaine said, the omega fats are the most anabolic legal supplement available. By the way, testosterone is a governor of sex drive, so be sure your gal is getting plenty of omega fats too.

7) Load the right amino ammo. Okay, you may have heard that arginine is the amino Viagra, but that's not why bodybuilders should take it (then again, it can only make things better below the belt). It's a good vasodilator—it helps the body manufacture nitric oxide, which opens up the blood vessels so nutrients can rocket to your blasted, starving muscles. Take about two grams after you train. Arginine has also been shown to help the muscles store more glycogen, which means more cell volume. [Note: Muscle Link's postworkout supplement RecoverX has two grams of arginine per serving, as well as fast carbs and fast protein. For more informaton visit www.muscle-link.com or call 1-800-667-4626.]

8) Fight free radicals. This has nothing to do with punching out war protesters at the federal building (although that might relieve some stress). It has everything to do with assassinating elements in your body that can damage your health. Free radicals cause everything from skin wrinkles to cardiovascular disease to cancer—and they can put a big damper on your muscle gains as they slow your recovery and get your immune system in a stranglehold. Excellent health means optimal muscle gains, so take antioxidants to battle free radicals. A good start is 500 milligrams of vitamin C, 500 international units of vitamin E and 20,000 units of beta-carotene. Here's some proof that antioxidants do good things for

you: Researchers at Ball State University in Indiana had subjects lift weights and take 1,200 international units of vitamin E while a control group also lifted but took a placebo. The results showed that the men taking the E had less extensive muscular damage. The vitamin didn't affect power, though it did appear to increase insulin sensitivity, another plus for muscle recovery and growth.

9) Add L-carnitine to elevate your mass. A compound you may want to add to your postworkout drink is L-carnitine—about two grams oughta do it. Jose Antonio, Ph.D., reported on the substance in his Anabolic Drive column in the July '02 *IRON MAN*:

"A group of scientists took 10 weight-trained men and gave them either a placebo or L-carnitine L-tartrate (LCLT) at a two-grams-per-day dose for three weeks. After the three weeks they performed an exercise bout. The researchers took blood samples before and after the subjects did squats—five sets of 15 to 20 reps. Various indices of skeletal muscle damage, such as creatine kinase, were lower in the LCLT group than in the placebo group. There was also much less free-radical formation, which suggests less oxidative damage, in the LCLT group. But even more directly, muscle disruption, or damage, was much less, and muscle soreness was less in the LCLT group than in the placebo group for up to four days after exercise.

"So carnitine may help you recover from an intense bout of weightlifting, but does that mean you end up with more muscle in the long run? Well, sorry to say, there's no human data on that. But in a study done in Hungary, scientists gave chickens four experimental diets that differed only in the amount of carnitine (50, 100 or 150 milligrams per kilogram of bodyweight). After two weeks on the carnitine-supplemented diet, the chickens were on average 9 percent heavier. Bodyfat levels were also lower by 18 percent. A dose of 50 to 150 milligrams of carnitine per kilogram of bodyweight daily made for superchickens."

10) Grow with glutamine. Glutamine is the most

Muscle Meals is glutamine-peptide fortified.

prevalent amino acid in muscle tissue. Unfortunately, a lot of what you take orally is absorbed by cells in the intestines and never makes it to the muscles. Supplement heavily with L-glutamine—some bodybuilders take as much as 20 grams a day. A study at Louisiana State University in 1995 showed that subjects who took only two grams of glutamine increased their growth hormone output fourfold. That's reason enough to use meal replacements with added glutamine or to take extra glutamine in capsule or powder form. The best type to supplement with is glutamine peptides, which allow much of the glutamine to make it through the gut and into the bloodstream. Studies suggest the peptide-bonded version is up to 10 times more absorbable than standard L-glutamine. Look for glutamine peptides in your meal replacement and protein powder for that extra mass-building kick. It's also plentiful in cottage cheese. [Muscle-Link's Muscle Meals is fortified with glutamine peptides. For more informaton visit www.muscle-link.com or call 1-800-667-4626.]

11) Make your a.m. more anabolic. Studies suggest that fasting makes muscles more receptive to amino acid uptake. When are you in a fasted state? Every morning after a good night's sleep (unless you sleepwalk and raid the fridge at 3 a.m.). To take advantage of that state, have a whey protein drink as soon as you wake up. Whey is a fast protein that gets into your bloodstream almost immediately after you take it. Don't eat solid food till 20 minutes after that.

You may also want to enhance the anabolic surge of the whey by combining it with an insulin spike. Drink a glass of juice with your whey protein, or get both fast carbs and fast protein in one powder with a postworkout drink like RecoverX. Use a half serving as soon as you wake up, and then 20 minutes later have breakfast.

12) Get milk—or at least a calcium-rich MRP. European researcher Michael Gündill had this to say about an interesting calcium study:

"In 1996 physicians specializing in sportsmedicine tried increasing the calcium intake of college basketball players. Their objective was to see if calcium supplements increase bone density. Research had already shown that intense physical activity can increase bone density, especially during the growth period of adolescence. On the other hand, athletic activity also increases calcium losses, particularly through perspiration. It can, therefore, create a calcium deficiency just when the body most needs the mineral. Yet the researchers noted that two grams of calcium a day increased not only bone density but also muscle mass. In other words, physical exercise plus calcium supplementation increases muscle mass significantly more than does exercise alone."

Make sure you're getting plenty of calcium every day—not only for your bones but for optimal muscle growth too. Many meal replacements, especially those with micellar casein, contain ample amounts of calcium.

13) Try magnesium for a bigger, stronger you. According to Ronald Elin, M.D., in a study that involved more than 37,000 people, only 25 percent had a magnesium intake at or above the recommended daily allowance. Magnesium is involved in protein synthesis and muscle contraction, which may be why, in a seven-week study, a group taking magnesium gained 20 percent more quadriceps strength than a group taking a placebo. The supplemented group took 300 milligrams of magnesium oxide per day. If you're one of the many who are deficient in the mineral, using a magnesium supplement could lead to bigger, stronger muscles. [Note: Some meal replacements, like Muscle-Link's Muscle Meals, have balanced calcium and magnesium.]

14) Carb up as you work out. Sipping a high-carb drink as you train can help preserve muscle wasting by blunting cortisol release. Here's what European researcher Michael Gündill said

We never reduce our carbs below about 140 per day, even during the last weeks of our ripping phase. Carbs keep the muscles full, which is why extreme low-carb diets can flatten out even the biggest bodybuilders.

about that strategy: "Blood glucose levels tend to fall during training. As a result, insulin secretion is repressed while the secretions of cortisol and glucagon are enhanced. You want to reverse the situation, which is easily accomplished by increasing your carb intake before your workout and/or using a carb drink through the session. Studies have shown that carb drinks boost glutamine output at the end of a workout by cleaning out many of the waste products that accumulate in the muscles during exercise. That's a double advantage you shouldn't neglect." There are many high-carb sports drinks you can use, and even sugar-filled Kool-Aid will work—just don't guzzle it. Sip slowly, make it last, and don't get nauseous. You could take Kool-Aid or sugar-spiked H_2O in a water bottle to keep you hydrated and cortisol free during your training. Defizzed Coke can work too, plus you get a caffeine kick.

15) Eat excess calories to pack on extra mass. Most bodybuilders know to eat often—five to six times a day—and to get protein at all of those feedings. What they don't realize is that if they're only taking in enough calories for maintenance, they won't build much muscle. You need an excess of energy, a.k.a. quality calories, so your body can afford to build muscle. That's right, afford. Excess muscle is a luxury, and your body

will do everything possible to prevent it—unless it has more of what it needs to survive. A good rule of thumb is to take your bodyweight and multiply it by 15 to get the daily calorie level you need to gain muscle. If you weigh 200 pounds, that's about 3,000 calories. Extreme hardgainers may need to add 500 to 1,000 calories to that number. Check out the diet on the next page. It provides about 3,000 calories, with 30 percent protein, 25 percent fat and 45 percent carbs. It's a great place to start; however, consider it a template—you may need to alter it, as everyone's metabolism is different. If you need more calories, use protein supplements as stand-alone meals or to fortify real-food meals. [Note: If you need to drop bodyfat, watch for our e-book on leaning out and detailing your physique. Till then check out Chapter 15, Get-Ripped Nutrition, in the book *Train, Eat, Grow—The Positions-of-Flexion Muscle-Training Manual*, available from Home Gym Warehouse, 1-800-447-0008 or www.home-gym.com.]

Ultimate Mass Diet

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

Meal 2
Whey-and-casein meal replacement, such as Muscle Meals

Meal 3
Roasted chicken, 6 ounces
Lima beans or other green vegetable, 6 ounces
Rice, 1 cup
Sherbet, 3 scoops

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
Small whey-and-casein protein drink
(Muscle Meals or Pro-Fusion)

Meal 6 (right after training)
Postworkout anabolic booster, such as RecoverX
Optional specialty supplements: P.S. (Cort-Bloc, a cortisol control compound), buffered creatine, such as CreaSol

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: P.S. (cortisol control), small whey-and-casein protein drink

CHAPTER 16

Ultimate Mass Attitude

You gotta be persistent and patient in the bodybuilding game. Big muscles don't sprout all over your body overnight. It takes time (but not as much as it takes most trainees). That means you have to enjoy the ride if you're going to stick with weight training and reap its incredible benefits throughout your life. In other words, you gotta do what it takes to keep yourself hitting the gym on a regular basis.

If you prefer short workouts or you simply don't have time for more elaborate routines, try high-intensity training—only a few all-out sets per bodypart. Your training will have to be more precise, but that can be part of the fun. For example, you can make incredible gains with one of the Ultimate Basic Workouts in Chapter 11. Two to three days a week in the gym using X Reps can provide all the muscle-building stimulation you need to develop an impressive physique. And don't be afraid to experiment (or X-periment, see #19 in Chapter 14 for the Triple-X technique). For example, drop sets aren't included in those basic routines, but you can try that mega-pump method on any exercise to help you get more work done in less time. You can also try negatives, which can lay waste to a muscle with one slow, heavy, controlled set (see #21 in Chapter 14). Variations like that make the workout more effective *and* keep them interesting and fun.

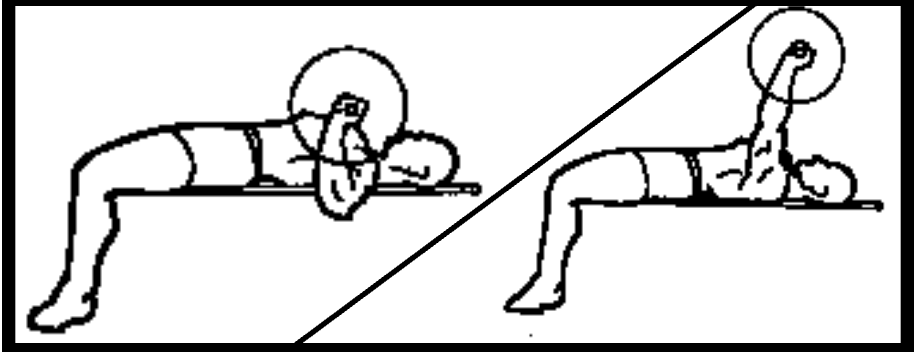
If you have the motivation and time to make it to the gym five days a week, training becomes a habit and you'll no doubt make spectacular progress with diligence and smart, precise training. If your workouts ever get dull, however, don't hesitate to change things, and if you feel like your dragging, don't be afraid to take time off to recharge your batteries. Always remember that you must enjoy the journey, or you may get a flat tire on the road to more mass. Keep those tires pumped up and your body tuned up like a Formula-One racer, and life will be much more enjoyable, not to mention X-hilarating.

APPENDIX A

Other Exercises

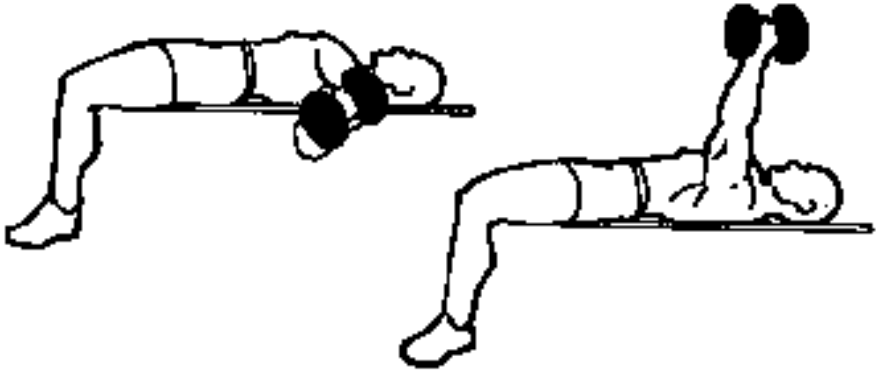
Bench Presses, Midrange: Lower and Middle Chest

- Keep your feet flat on the floor.
- Maintain an arch in your lower back.
- Touch the bar just below your low-pec line.
- Drive the bar up and back in a natural arc.
- Don't pause at the top or bottom of the movement.
- Don't raise your hips off the bench.



Flat-bench Flyes, Stretch: Lower and Middle Chest

- Keep a slight bend in your elbows at all times.
- Lower the dumbbells till they are on the same plane as your torso.
- When you reach the stretch position, reverse the movement with no bounce.
- Don't pause at the top or bottom.

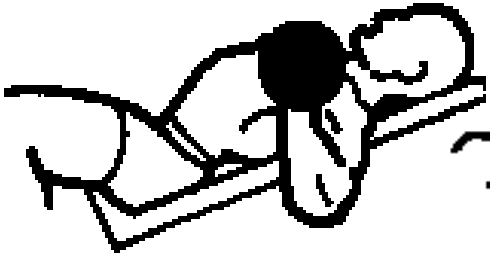


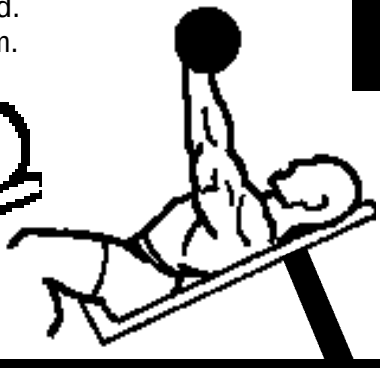
Cable Crossovers, Contracted and Stretch: Lower and Middle Chest

- Pull the cables down till your hands touch at a point about a foot in front of your abdomen.
- Pause at the bottom for a count before releasing.
- Don't lean too far forward; keep your head up.
- Do these with low-cable attachments on an incline bench for an upper-chest contracted-and-stretch-position exercise.

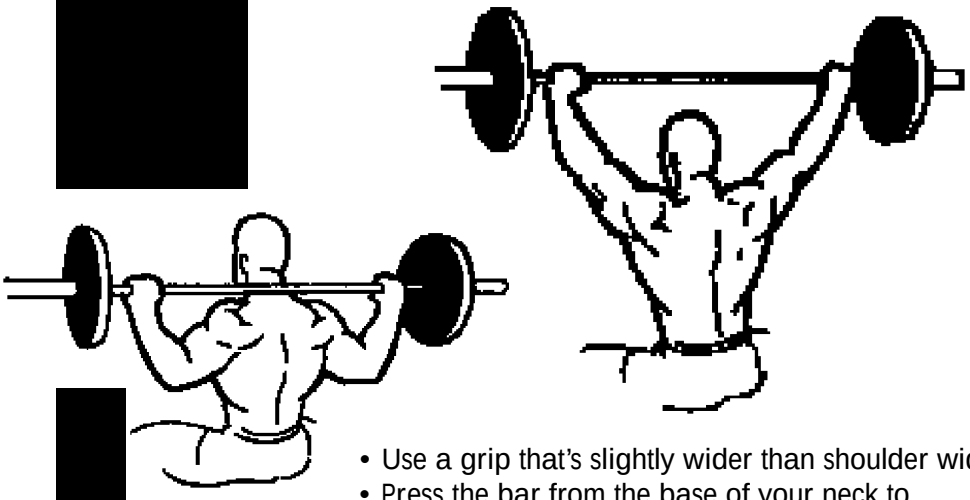
Incline Dumbbell Presses, Midrange: Upper Chest

- Use an incline bench set at about 45 degrees.
- Press the dumbbells from your shoulders, going up over your eyes till they touch.
- Keep your palms facing forward.
- Don't pause at the top or bottom.





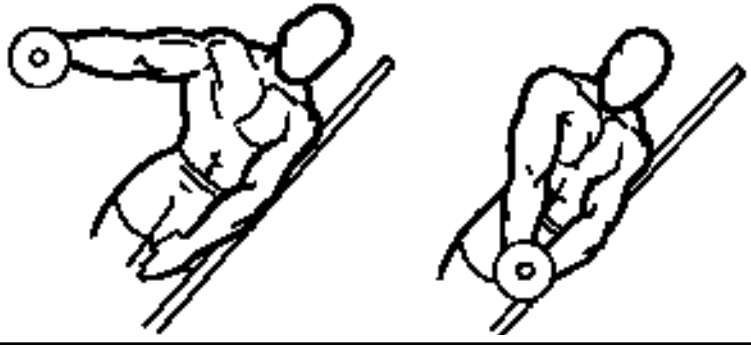
Behind-the-neck Presses, Midrange: Deltoids



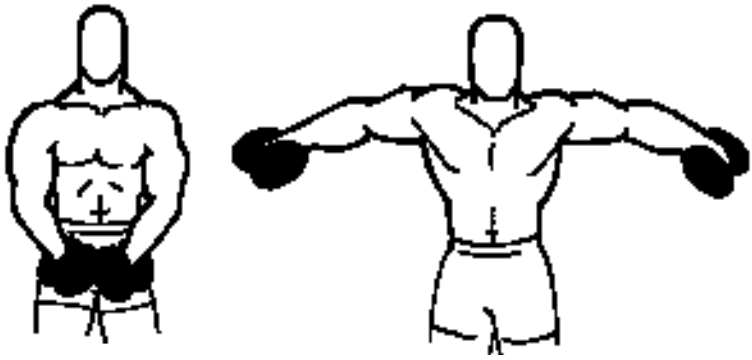
- Use a grip that's slightly wider than shoulder width.
- Press the bar from the base of your neck to overhead.
- Don't pause at the top or bottom.

Incline One-arm Laterals, Stretch: Medial Deltoid

- Raise your arm till it's parallel to the floor.
- Lower your arm in front of your torso, but don't relax your shoulder; keep tension on your deltoid throughout the set.



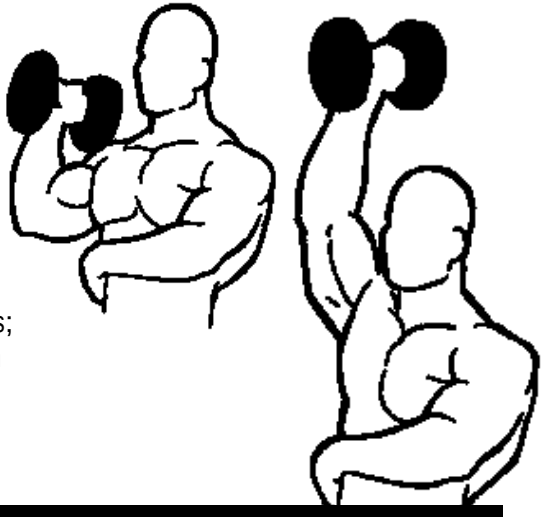
Lateral Raises, Contracted: Medial Deltoid

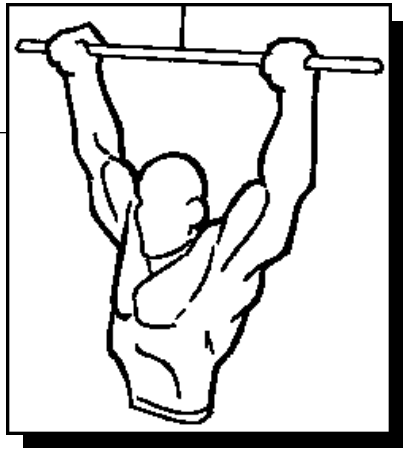


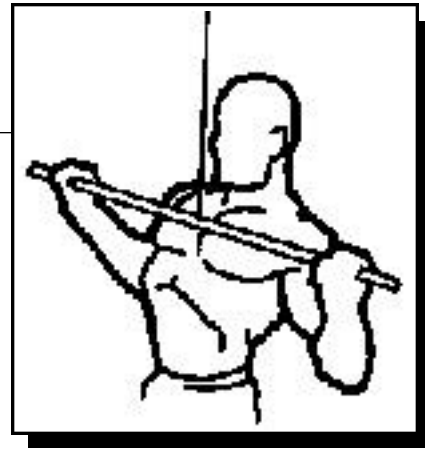
- Start with the dumbbells touching in front of your thighs.
- Keep a slight bend at your elbows.
- Raise your arms till the dumbbells are close to ear level.
- Hold for a count at the top.
- Don't lean back; keep your torso upright and focus on lifting your elbows.

One-arm Presses, Midrange: Deltoids

- Keep your palm facing forward throughout the movement.
- Grab your torso across the front of your body with your free arm for stabilization.
- Don't pause at the top or bottom.
- Don't lean back as you press; try to keep only a slight arch in your lower back.
- You can do these standing or seated.

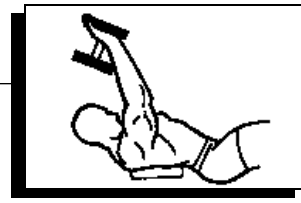






Pulldowns, Midrange: Lats

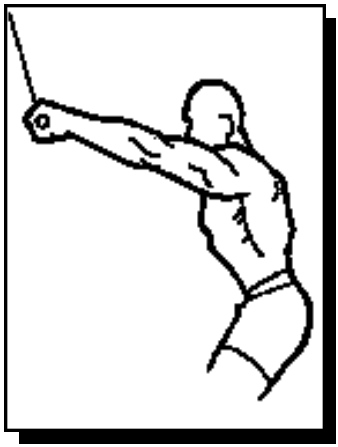
- Use an overhand grip slightly wider than shoulder width.
- Pull the bar down to your upper chest, keeping a slight arch in your lower back.
- Don't pause at the top or bottom.
- Don't lock your elbows at the top to keep tension on your lats.
- Don't release the tension on your shoulders at the top, or you could injure them.



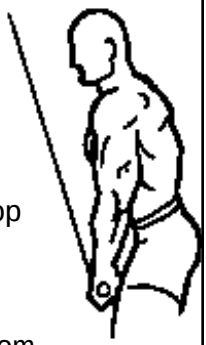
Dumbbell Pullovers, Stretch: Lats

- Keep your hips lower than the bench.
- Lower till your arms are parallel to the floor, no farther.
- Raise the dumbbell to a point over your face.
- Don't pause at the top or bottom.

Stiff-arm Pulldowns, Contracted: Lats

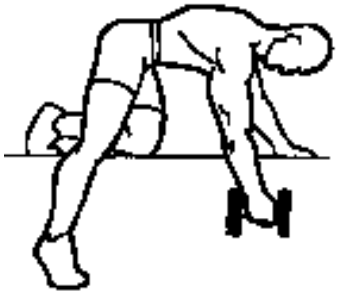


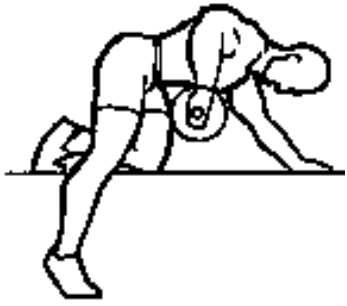
- Keep your arms almost locked.
- Pull the bar from a point just above the plane that's even with the top of your head, bringing it down in an arc to your thighs.
- Hold for a count at the bottom and contract your lats.



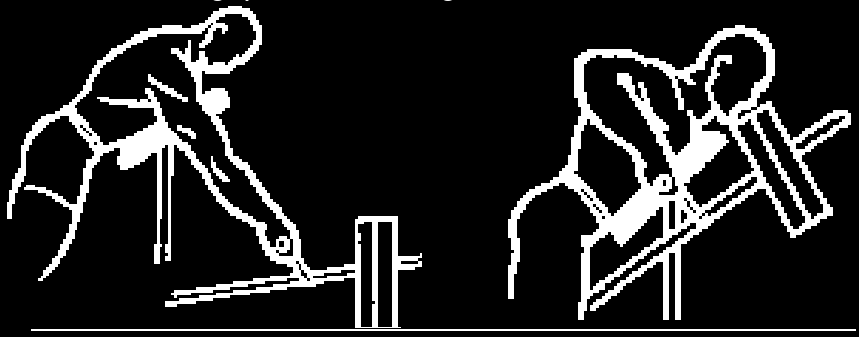
One-arm Dumbbell Rows, Stretch: Midback

- Bend at your waist with a dumbbell in one hand and brace yourself on a bench with your free arm.
- Start with your arm straight and your palm facing your free arm.
- As you pull the dumbbell up to your chest, rotate your hand so your palm is facing back at the top.
- Keep your arm angled away from your torso.
- Keep your back flat and try not to lean to the side as you row.
- Don't pause at the top or bottom.
- You can also put your leg up on the bench to prevent cheating.





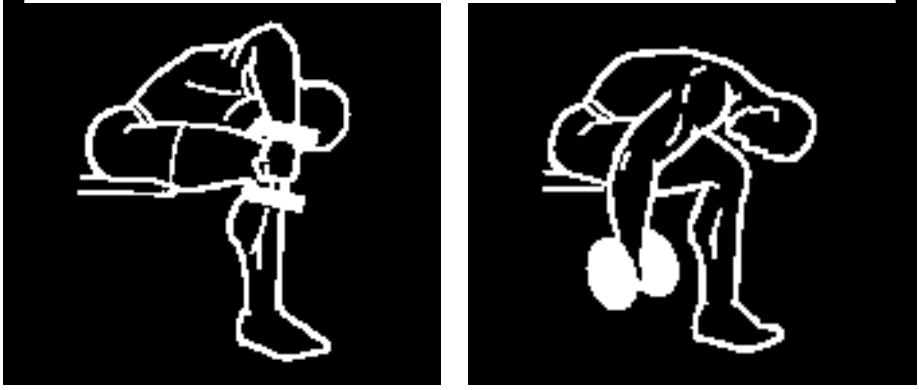
Close-grip Rows, Midrange and Stretch: Midback



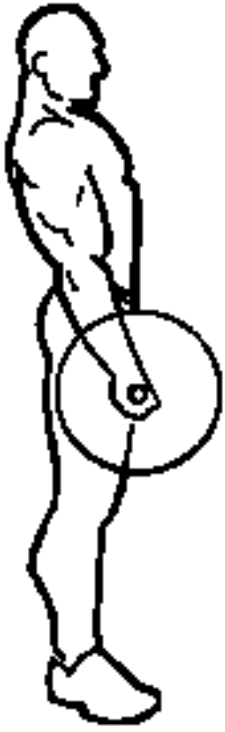
- You can also do this movement with a V-bar and a cable or a T-bar-row machine with chest support.
- Keep your back flat.
- Use an overhand grip, with your hands a few inches apart.
- Keep your arms angled away from your torso.
- Don't pause at the bottom, the point of stretch.
- Don't relax your shoulders; maintain tension on your midback muscles throughout the set.

Bent-arm Bent-over Lateral Raises, Contracted: Midback

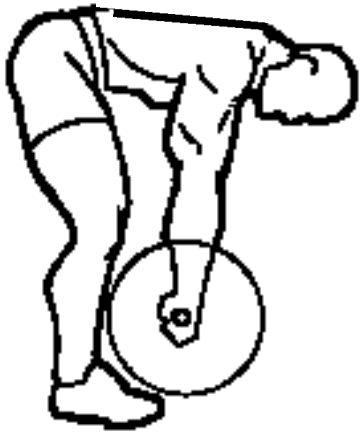
- Keep a slight bend at your elbows.
- Raise your hands till your arms are parallel to the floor.
- Keep your back flat.
- Pause at the top of each rep for a count.



Stiff-legged Deadlifts, Stretch and Midrange: Hamstrings



- Keep a slight bend in your knees and your back flat throughout the movement.
- Lower the bar to midshin level, keeping the bar close to your legs.
- When you reach midshin level, reverse the movement with no bounce.
- Don't pause at the top or bottom.



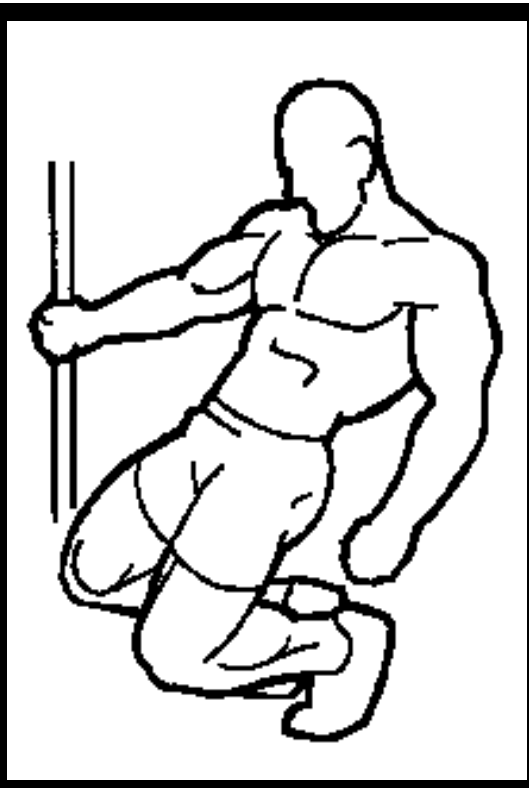
Leg Curls, Contracted: Hamstrings

- Flex your feet toward your shins.
- Pause at the top for a count before lowering.
- Don't swing or jerk; maintain a slow, controlled movement.
- Don't raise your hips off the bench.

Squats, Midrange: Quadriceps

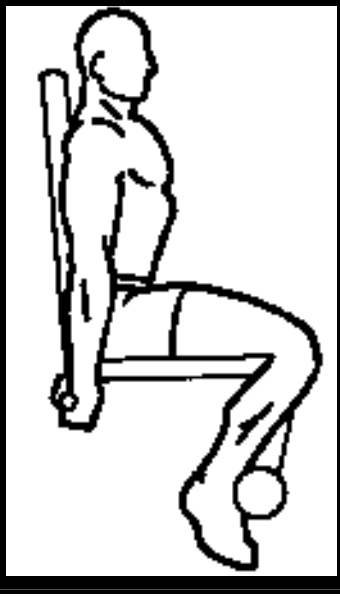
- Rest the bar on your traps, just below the base of your neck.
- Maintain a flat lower back throughout the movement.
- Look straight ahead.
- Squat to a depth at which your thighs are just below parallel to the floor.
- Try not to lean too far forward; stay as upright as possible.
- Don't pause at the top or bottom of the movement.
- Do these with your feet forward on a Smith machine for midrange hamstring work.

Sissy Squats, Stretch: Quadriceps

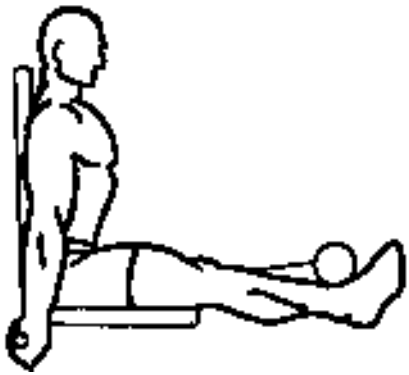


- Hold on to an upright for balance.
- Lean back as you bend your knees, keeping your torso and thighs in the same plane—no bend at the waist.
- When your hamstrings meet your calves, reverse the movement with no bounce.
- Don't pause at the top or bottom.
- Hold a barbell plate on your chest for more resistance or do the exercise on a Smith machine.

Leg Extensions, Contracted: Quadriceps

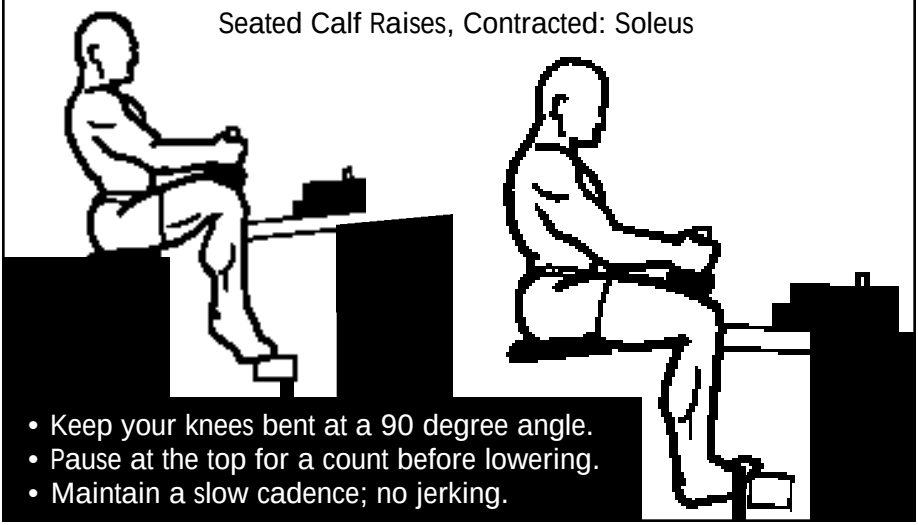


- Angle your feet slightly outward.
- Pause at the top for a count before lowering.
- Don't swing or jerk; maintain a slow, controlled movement.
- Don't raise your hips off the bench.



Soleus

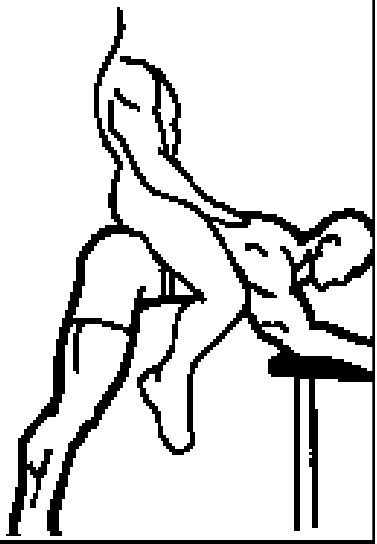
Seated Calf Raises, Contracted: Soleus



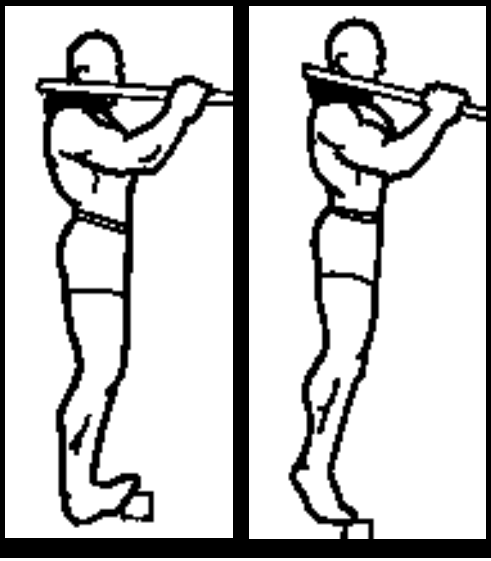
- Keep your knees bent at a 90 degree angle.
- Pause at the top for a count before lowering.
- Maintain a slow cadence; no jerking.

Donkey Calf Raises, Stretch: Gastrocnemius

- Keep your knees almost locked and your torso at a right angle to your legs.
- Stretch down as far as possible, and without pausing, drive up to the top position.
- Pause for a count, then lower to full stretch.



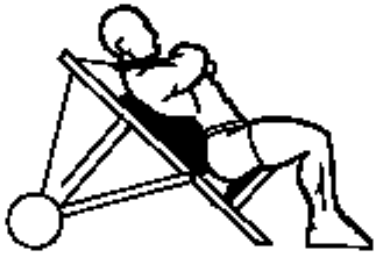
Standing Calf Raises, Contracted: Gastrocnemius

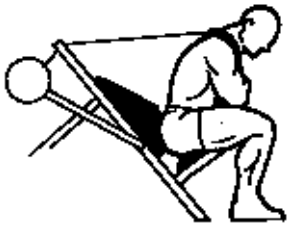


- Keep your knees locked.
- Pause at the top for a count before lowering.
- Maintain a slow cadence; no jerking.

Ab Bench Crunch Pulls, Stretch and Contracted: Rectus Abdominis

- Allow the cable to pull you back to where your rectus abdominis is stretched, then, without pausing, initiate the movement.
- Slowly pull forward into the contracted position and pause for a count.

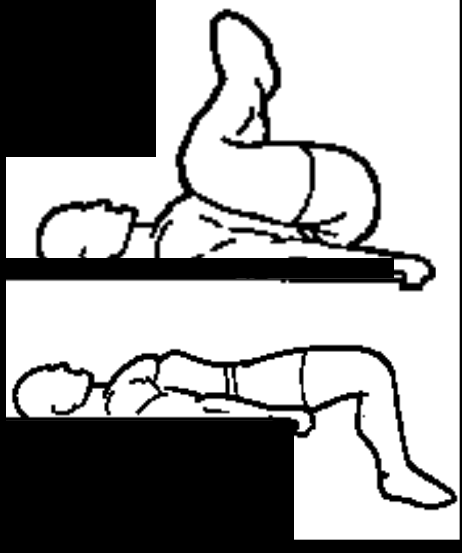




Note: If you don't have an Ab Bench, you can simulate this movement using a high cable and a preacher bench for lower-back support. Or you can do crunches on a bench press bench with your upper back hanging off one end to provide ab stretch. See page 72.

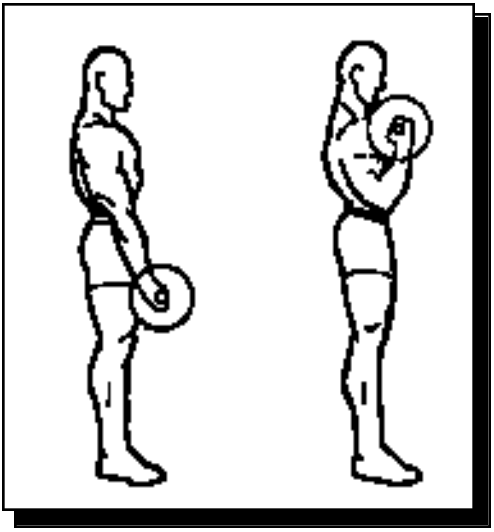
Kneeups, Midrange: Rectus Abdominis

- Pull your knees into your chest as you roll your hips up off the bench.
- Hold for a count at the top.
- Lower your hips slowly, then extend your legs.
- Maintain a slow cadence; no jerking, no momentum.
- Incline the bench to increase the difficulty of this exercise as you get stronger.
- For maximum difficulty do the exercise hanging from a chinning bar.



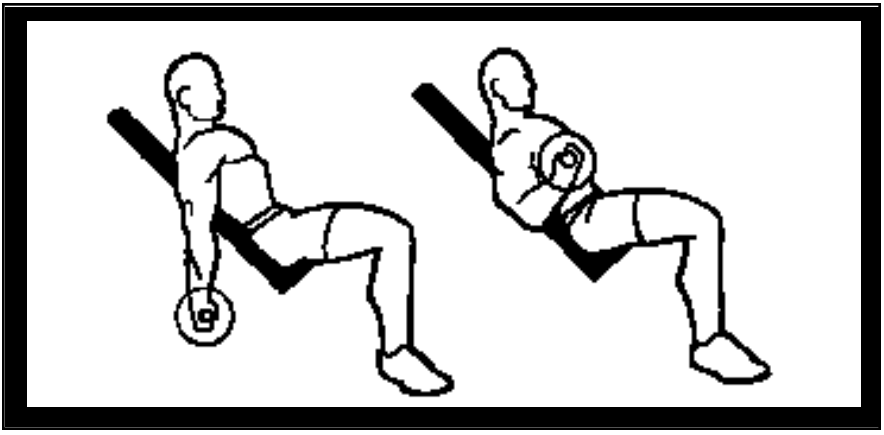
Barbell Curls, Midrange: Biceps

- Use a shoulder width underhand grip on the bar.
- Start each rep with the bar against your front thighs.
- Curl the bar till it almost meets your chin, then lower it slowly.
- Don't swing or jerk.



Incline Curls, Stretch: Biceps

- Keep your palms facing forward and your upper arms stationary throughout the movement.
- Don't pause at the top or bottom.

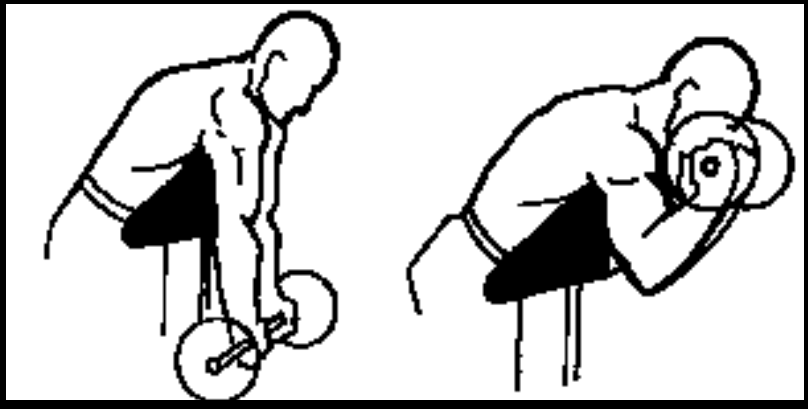


Concentration Curls, Contracted: Biceps

- Keep your upper arm stationary throughout the movement.
- Don't pause at the bottom.
- Pause at the top for a count and flex your biceps.
- You can also do these seated with your working arm braced against the inside of your thigh.

Spider Curls, Contracted: Biceps

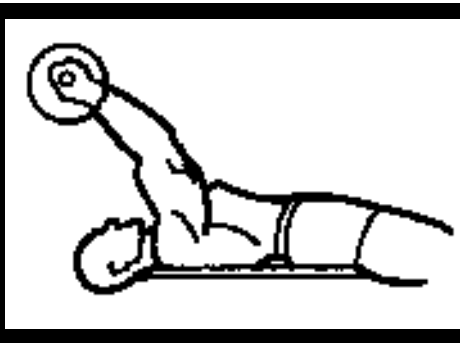
- Use a straight bar with your palms up and your hands about shoulder width apart.
- Brace your upper arms against the vertical side of a preacher bench, not the angled side.
- Don't pause at the bottom.
- Pause at the top for a count and flex your biceps.



Lying Triceps Extensions, Midrange: Triceps

- Use an overhand grip with your thumbs about eight inches apart.
- Keep your upper arms stationary.
- Lower the bar till it touches your forehead or the top of your head.
- Don't pause at the top or bottom of the rep.

Note: Close-grip bench presses can substitute for lying extensions as a midrange triceps exercise.



Overhead Barbell Extensions, Stretch: Triceps

- Do these either standing or seated.
- Lower the bar behind your head till your forearms meet your biceps for a full triceps stretch.
- Don't pause at the top or bottom.

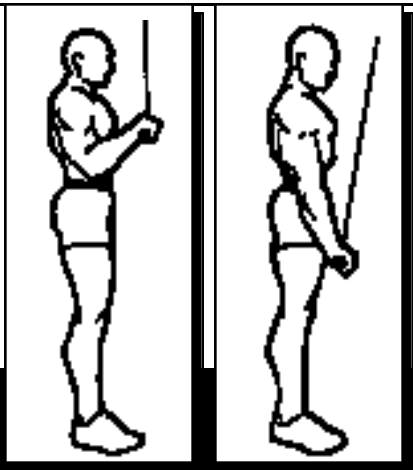
Dumbbell Kickbacks, Contracted: Triceps

- Keep your upper arms as motionless as possible at your sides.
- Hold at the top for a count to contract your triceps.
- Don't pause at the bottom.
- You can do these one arm at a time or with both arms at the same time

Triceps Pushdowns, Contracted: Triceps

Note: For best triceps contraction do these one arm at a time, and make sure you keep your upper arm slightly behind your torso.

- Grip the bar with your palms facing down and your hands slightly narrower than shoulder width.
- Don't pause at the top.
- Pause at the bottom for a count and flex your triceps.
- You can also use a V-bar or rope instead of a straight bar.



Forearms

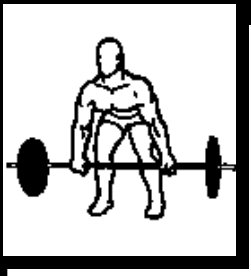
Reverse Wrist Curls, Contracted: Forearm Extensors

- Take an overhand, palms-down, grip on the bar, with about 10 inches between your thumbs.
- Rest your forearms on your thighs or on a bench.
- Allow the bar to pull your hands down, then curl it up to the highest point possible with forearm extensor strength alone.
- Pause at the top for a count, then slowly release.

Wrist Curls, Contracted: Forearm Flexors

- The same as reverse wrist curls, except you use a palms up grip on the bar. This movement works the forearm flexors on the underside of the lower arm.

The Deadlift



The regular deadlift can be classified as a midrange midback exercise or a midrange quad exercise. While you use your legs to power through the first two-thirds of the stroke, it's almost a full-body exercise. No matter how you classify it, it's one of the best all-around mass moves available.