

THE COMPLETE
SMITH MACHINE
EXERCISES & WORKOUTS



Craig Cecil

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Thanks!

I want to thank David and Anna for their courage and commitment to pose for the pictures in this book. You can both be proud of your physical achievements and mental fortitude to accomplish that. I know it's not easy putting yourself out there for thousands of readers for eternity. It's also nice to see a husband and wife unified in the pursuit of health, a model which they can pass on to their children. In any case, you have been immortalized.

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Craig

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Each man delights in the work that suits him best.

— Homer, *The Odyssey*

Preface

The Smith Machine is one of the most common and versatile pieces of weight training equipment ever devised, equally effective for both beginners and advanced trainers alike. It was the first true multi-purpose exercise machine and, due to its versatility, is found in gyms, health clubs, schools and homes around the world. Its basic design of a barbell affixed to a sliding rail system allows for the safe use of pushing and pulling exercises with light to heavy weights. However, perhaps due to its deceptively simple design, the Smith Machine is often relegated to simple squats, shrugs, and presses. You can work any muscle group on modern versions of the Smith Machine. The collection of basic barbell movements you can do here represents a symphony of exercises that can transform your body.

Additionally, the Smith Machine presents a unique opportunity to enhance your strength, build more muscle, reshape your body, reduce body fat, recover from injuries, and save time working out.

My goal here is two-fold.

First, I hope to show you just about every possible use for the Smith Machine in your training. In that vein, this book presents a complete guide to the *effective* use of the Smith Machine, presenting over 80 exercises and dozens of varied workouts, for the beginner to the advanced trainer. Additionally, the book will show you how to take advantage of the machine's unique strengths, *while avoiding its weaknesses*, to take your body to the next level in strength and fitness. No matter what your level of workout experience, when you finish reading this book, I guarantee you'll have learned something new and perhaps look at the Smith Machine in a different light. There's more than meets the eye here.

Second, I hope to make this book an enjoyable journey for you. For many, the words learning and joy don't often coexist. However, usually the best type of learning is that which we enjoy. I've read hundreds of cookie-cutter fitness books—everything from getting a big bench to fascial stretching, from building massive arms quickly to working out 20 minutes a day, twice per week. At the time, they may have been interesting, but over time most of the contents have slipped the surly bonds of practical use. The ones I hold dearest are peppered with histories, stories, anecdotes and absolute truths I could relate to, perhaps eliciting a grin or laugh, and ultimately etching into long-term memory. I'll try to follow that form—ultimately, you'll decide if I succeeded.

Now, let's start at the beginning.

1

The Soul of a New Machine

I've often been quoted as saying that history holds the key to discovery or re-discovery of physical improvement—those barbells, dumbbells and various tools used in our weight training pursuits have stories to tell that help us understand not only their purpose, but effective use as well. This history holds no less importance to us here with weight training techniques, methodologies and equipment, than does the story of Agamemnon launching the Trojan War to scholars.

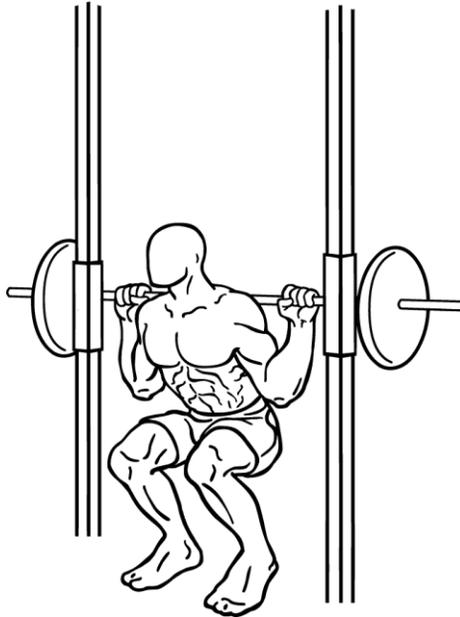
No matter which type of fitness routine you follow, whether you use aerobics, recreational weight training, or are involved with serious bodybuilding or powerlifting, the roads to these endeavors typically converge back to Jack LaLanne. Most who remember him will remember the tight, one-piece zippered jump suits he wore when working out on television. Whereas the jumpsuits helped build the brand, he fathered just about everything we now associate with the modern fitness revolution.

Starting in the 1950s, LaLanne pioneered physical fitness and nutrition through an array of venues—early television (aspiring cooks had Julia Child—exercise buffs had *The Jack LaLanne Show*), books, one of the first health club chains, personal training of celebrities—along with incredible feats of strength, such as swimming a mile in Long Beach Harbor, while handcuffed and shackled, towing 13 boats containing 76 people—at 62 years old. He also invented a number of exercise machines—which brings us here.

In the early 1950s, LaLanne wanted an exercise machine that would provide the benefits of free-weight workouts to a wider audience, with as much built-in safety as possible. That was always his goal—to get people up off the couch and exercising and he did anything he could to further that aim. Jack rigged up a simple prototype of his “free weight” machine in his gym. The prototype had sliding rails, extending from floor to ceiling that acted as guides for the attached barbell. Now, even novice weight trainers could safely perform simple pressing and pulling exercises, without

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worrying about balancing or falling over with the bar (it happens). It seemed like a great way to get even more people working out.



Artist rendering of Jack LaLanne's early rail-based exercise machine

Rudy Smith thought it was a great idea too. It just needed a few modifications.

Rudy was a bodybuilder working out at LaLanne's gym in the early 1950s when Jack constructed his prototype. Realizing its potential, Rudy continued modifying the original design on his own so that it could be free standing—the rails would not be affixed to floor and ceiling—and could accommodate heavier loads, provide smoother operation through a counter-weight system, and have safety catches negating the need for a spotter. Rudy Smith's final design incorporated all of these modifications, using dumbbell plates attached to bicycle chains as the counter-weight mechanism.

By then, Rudy was working as the manager of the Vic Tanny gym in Los Angeles and had his Smith Machine installed for the members to use. The machine was an instant hit, more machines were ordered and installed in all the Vic Tanny gyms, word quickly spread, and several other health club chains inquired about getting their own.

Due to the overwhelming demand, Smith hired the machinist Paul Martin to design a version that could be mass-produced. At the time, Martin was pioneering the genesis of the commercial health

club equipment industry, supplying the Vic Tanny and Ray Wilson's American Health Studio chains with early fitness equipment from his factory. This Rudy Smith/Paul Martin collaboration produced the original edition of the mass market Smith Machine—the basic design still in use today.



Vic Tanny seated under the original Smith Machine, produced by Paul Martin

2

Meet the Smith Machine

The modern Smith Machine, found in most health clubs and available for home gym use, is virtually unchanged from Rudy Smith's original manufactured unit. The proven design produces results.

Today, Smith Machines are available in two general versions—traditional and angled.

The traditional version is the simplest and still uses the purely vertical bar path of the original, and may or may not have a counter-weight mechanism. This version is best for strict vertical motions, such as deadlifts, rows and squats.

Angled versions are either counter-weighted or use a viscous resistance for smooth operation, and are typically set at a 7-10 degree incline, allowing a more natural movement for presses, upright rows and shrugs, expanding the available sandbox of movements over the traditional version.



Although fairly uncommon, some newer design Smith Machines do allow a limited horizontal movement, as well as the vertical bar path. Because these machines are so uncommon, you're not

Meet the Smith Machine

likely to find one at your local gym. However, if you do have access to one of these, all of the information in this book still applies—you'll just have a little more freedom of motion, which is never a bad thing.

Regardless of the type of Smith Machine you have access to, the basic operation and safety features remain the same. The affixed barbell contains a built-in hook mechanism on each side of the bar. You lift the bar and twist it backward to unhook (unlock) it from the post or slot that currently holds it in place (some machines reverse this operation and have you twist the bar forward to unlock). This allows the bar to move freely along the rails. When you want to secure the barbell, you can twist the bar forward at any point in order to hook it into the nearest post or slot.



The hook locking mechanism (top) and the safety catch (bottom)

Additionally, before you begin the exercise you can adjust the moveable safety guards that slide along each rail. These safety guards will stop the descent of the bar in the event that you are unable to twist the barbell into place with heavy loads. These guards are also the key to setting the desired range of motion for your chosen exercise.

The only two things you have to remember when using the Smith Machine are to (1) set the safety catches at an appropriate spot in the event you can't complete the movement, and (2) keep the bar rotated in the unlocked position throughout your exercise. It's common for Smith Machine novices to forget to set the safety mechanisms and to inadvertently rotate the bar into the locked position while the bar travels along the rails, making for a jarring experience. However, with a couple minutes of practice, you'll be expert at the operation of the machine. That's the beauty of the design.

That's it folks—a simple machine with a simple operation that allows you to do a vast array of exercises safely. But that's not the end of the story, at least as far as some are concerned...

3

Advantages, Disadvantages & Limitations

The Smith Machine is a controversial device. Depending on who you listen to, it's either the greatest thing since man caught a stick on fire or represents the evil Mephistopheles of weight training. When you ask a seasoned weightlifter what the Smith Machine is useful for, typical answers are "I don't know", "Presses, squats and shrugs", or "as a coat hanger". Like most things, the truth is somewhere in between.

Novices, or those with injuries, are drawn to the machine for its unassuming, easy to operate nature within a safe environment. Exercise scientists, powerlifters, weightlifters, and functional movement experts denounce the machine for its limitations and potential for harm—opting instead to urge all of us to focus our efforts on free-weight and body-based movements. For the sheer act of writing this book, these groups may initially brand me as ignorant, traitorous or a snake oil salesman. Who is right? Let's find out.

Advantages

On the surface, the obvious advantages the Smith Machine offers are:

Self-spotting

Because the machine offers both safety catches and the ability to lock the bar in place by simply rotating it, there is no need for a spotter when performing exercises with heavy weights, such as squats and presses. This can allow advanced trainers to push themselves without fear. It's also vitally important if you want to achieve muscle growth—muscles must be forced into growth by making them perform things (more weight, more reps) they haven't done before. The Smith Machine gives you the confidence to do this. And let's face it—most people work out by

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themselves, whether at home or the gym. It's next to impossible to find a good, consistent training partner, so when you want to push yourself, self-spotting starts to look real good.

Balance & Stability

You don't need to balance the bar when using the Smith Machine; therefore you can't fall forward, back or sideways—again providing confidence. This allows novice trainers to concentrate more on form, without the worry of balance and stability. It also provides you an environment where as little can go wrong as possible. Besides getting in shape, workout novices also don't want to look stupid. If you've never used free weights before, they can make you look stupid, due to your lack of balance and stability when learning a new movement. If the Smith Machine gets you past the initial fear of stupidity, more power to it.

For trainers with a little more experience, if you can't "feel" the muscle working with a free weight movement, try performing the exercise on the Smith Machine, if possible. Just the pure concentration on form may allow you to make that mind/muscle connection that's so important for progress. In this situation, the Smith Machine's balance and stability becomes a pattern-based learning tool.

Whereas self-spotting and built-in balance and stability are obvious benefits, there are some less obvious ones as well:

Provides a Transition to Free Weights

Let's just state this now—free weights rule in the world of weight training. That's eventually where you want to be. However, the vast majority of people who start going to the gym or start training at home to get off the couch and get in better shape, don't start with free weights. Why?—because they don't know how and are afraid.

Many people are just plain intimidated by free weights or those of who have used free weights for a while. In a Darwinian world, this is natural. As mentioned above, the Smith Machine can help you climb that evolutionary ladder, by providing confidence and a natural bridge from using machines to the promised land of free weights.

Initially, the machine gets you familiar with loading plates on a bar. That's a big first step, especially for those accustomed to setting their weight resistance by placing a pin in a machine's weight stack. This gentle familiarity is also one reason why plate-loaded equipment, such as Hammer Strength, is so popular in gym and fitness centers today.

Second, you get used to gripping and holding onto an Olympic bar—you know, the ones they use in the actual Olympics for weightlifting and use as standardized equipment in all gyms across the world, regardless of race, religion, nationality or measurement unit. The Olympic bar is the Rosetta Stone of resistance training.

Third, the Smith Machine breeds familiarity with free-weight type movements, such as squats, deadlifts and presses when holding onto that Olympic bar. You're halfway home.

Finally, it requires you to make decisions and discover the consequences—such as what weight to use, or how much weight to add to the bar for the next set, the next workout, etc. You have to choose from the 45, 25, 10, 5 and 2.5lb plates—a virtual cornucopia of options that allow for more minute increments in weight versus the unyielding increments of typical machines. You get good at gym math. It's not just about setting the pin in slot number seven on the leg extension machine anymore.

All these things combined—loading plates, using an Olympic bar, patterning new movements and making the same decisions you need to make with free weights provide a great learning transition from pure machine-based workouts to the big time. And your confidence and physique will improve as a result.

Once you eventually make the move to a predominantly free-weight based workout regimen, the Smith Machine still provides a useful alternative in specific situations, as I'll relate later.

Confidence

I mentioned this earlier, but it bears repeating because it's so often overlooked in the pantheon of weight training milieu—anything which provides relative safety, requires minimal balance and stability and has you performing free-weight like movements and activities builds confidence. The converse is also true—it minimizes embarrassment, which let's face it, is one of the big reasons beginners at gyms avoid the free weight area. For exercise-machine devotees, the Smith Machine seems somewhat similar, yet slightly strange—offering an invitation to try it.

The Smith Machine enforces structure. People like structure. And structure builds confidence.

Constant Tension

This isn't often mentioned, but because the Smith Machine provides a linear bar path, it affords the opportunity to enlist constant tension on the muscles being worked when performing an exercise.

For example, because you don't need to concentrate on balance or stability, you can really work on squeezing your pectorals (chest) right from the start when performing incline presses, instead of

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just myopically pushing your hands toward the ceiling. This technique of keeping the muscle under constant tension (time under load) is one of the great benefits of the machine.

Muscle Isolation

Functional movement experts and many personal trainers talk about working the body as a single unit/system, performing whole body movements or actions that enlist as many muscle groups as possible. There's nothing wrong with that approach—in fact, it's great most of the time.

However, there are times when you need to isolate muscles, perhaps due to asymmetrical development (one arm bigger or stronger than the other), issues with muscle imbalance (large quads, small hamstrings), or injuries. The Smith Machine serves a dual purpose—it provides opportunity to work large groups of muscles at once, or isolate muscles when needed.

For example, on traditional squats, there are typically two types of lifters—what I like to call glute-dominant lifters (they mainly use their butt) and quad-dominant lifters (they primarily use their quadriceps/thighs). A lot of this has to do with technique, and some with body type. The Smith Machine allows these types of issues to be isolated and re-balanced. Glute-dominant lifters can perform squats with their feet slightly forward of the bar, shifting much of the work from the glutes to the thighs, without fear of falling. Further, lifters with minor back issues can often position their backs in a more vertical orientation in the Smith Machine and still squat, despite the injury. Many lifters who can't perform free weight squats, due to past back injuries, often thrive with Smith Machine squats. That's just one example. There are countless more.

(Limited) Range of Motion

The ability to exact control (set limits) on the range of motion is beneficial in certain circumstances. Because you can set the safety mechanism on the Smith Machine to restrict your range of motion, you have a confident means of working an area through a restricted range. This allows strength athletes to work with supramaximal loads.

Some individuals can't use free weights without incurring pain—minor stability or bar path changes can aggravate shoulder, back, neck or joints. Older lifters often have joint (arthritis, tendonitis) or mobility issues. Slight to moderate constraints on the range of motion with specific exercises can allow these individuals to continue training and improving their bodies.

Disadvantages & Limitations

Most of the arguments surrounding the disadvantages of the Smith Machine are rooted in its physical design limitations. Let's take a look at those.

Fixed Plane of Motion

Because the Smith Machine's bar can only move up and down, limiting the body to a fixed plane of motion, experts argue that it's unnatural and dangerous for the body to move this way, given that many exercises exhibit a natural arc of movement. The emanation from this camp is that the Smith Machine can increase the risk of injury, especially to the knees and lower back.

However, a consensus of scientific evidence in support of this is lacking, whereas the practicum of bodybuilders over the decades have discovered that fixed planes can be excellent for hammering a muscle into submission. On the other hand, the Olympic lifts (snatch, clean and jerk) do require arc-based movements and cannot be performed on the Smith Machine. Another valid consideration is that traditional weight lifting movements that can include a slight natural arc, such as the bench press and squat, will experience a loss of force as the Smith Machine bar travels through that fixed plane. It's just simple physics. I'll tell you why that's important in a minute.

Lack of Stabilizer Muscle Activation

This argument goes hand in hand with a fixed plane of motion. Any time you have a fixed plane many of your stabilizer muscles are not actively recruited. Why is this important? Read on.

Does not Improve Coordination & Balance

OK. Because the Smith Machine has a fixed plane, which doesn't actively use your stabilizer muscles, what's the repercussion? It doesn't improve your coordination and balance—two keys to overall fitness. For athletes, improving coordination and balance are part of the total package for improving performance. Again, context is paramount—for bodybuilders, the Smith Machine provides many benefits; for a baseball or football player, not so much.

However, as I've mentioned, there are times you may not want to involve your stabilizer muscles. For example, many individuals have trouble building the upper chest because their front deltoids (shoulders) take the brunt of the work (next time you perform ten sets of bench presses, a day or two later notice how sore your chest is compared to your front delts—if only your front delts are sore, pay attention to the next sentence). Some of this is due to structural genetics (wide clavicles, shallow ribcage) or exercise set-up and performance (incline set too high, shoulders do not remain retracted). If this is you, performing incline presses on the Smith Machine will allow you to set

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your body and the movement in a position to help you primarily work your upper chest and not your shoulders.

Transfer of Skills

Physical tasks are not performed in a linear fixed plane. Your body doesn't move that way. As many exercise scientists point out, because Smith Machine exercises do not mimic most physical tasks they are less functional than free weight versions. This is just the bare truth. Be aware of it, because your body will be. The take away message is that there is no silver bullet, whether it is barbells, dumbbells, cables, sandbags, Husafell Stones, or Smith Machines.



The basic problem with arguments centering on the Smith Machine's disadvantages is they are often arguments in a vacuum, mutually exclusive, all-or-nothing arguments. If you are going to use the Smith Machine exclusively as your only weight-training device, then yes, you will be limited to a fixed plane, which requires you to exempt some movements—and compared to others who perform mostly free weight movements, you will be at a disadvantage.

However, that's not the *raison d'être* of the machine. Jack LaLanne's original intent for the machine still applies—to get more people exercising. If the Smith Machine gets you up off the couch, gets you back in the game from an injury, saves you a little time, and opens your world to more exercises, then so be it. Look around at the mass of humanity—it's better than the alternative.

What we really need is to derive maximum benefit from the machine.

Given the inherent advantages, disadvantages and limitations described above, you need to understand how to use the Smith Machine *effectively* in order to derive maximum benefit. The Smith Machine is simply one tool in your overall fitness arsenal to achieve your physical goals. The next section shows you how to use this tool based on your specific goals, to produce maximum benefit.

4

How to Use the Smith Machine Effectively

All weight training activities lie on a continuum, from explosive, violent single-rep power movements to the grace and fluidity of high-volume, minimal rest circuit training. Each waypoint along that progression has distinct effects on the body. This section will introduce you to those waypoints. Regardless of where you are or where you want to proceed along this weight training continuum, lifting weights is an exceptional activity to gain muscle, lose fat and increase joint mobility.

For most, the Smith Machine equates to various presses, squats, and perhaps shrugs. Typical use is generally a couple sets of each of those movements for 6-12 reps, with about a minute or two of rest in between. Folks, that's just the tip of the iceberg here. Basic barbell movements represent a symphony of exercises that transform your body—affixing a barbell to a rail system hardly detracts from that.

When people work out, they usually have at least a loosely defined goal of where they want to be, what they want to achieve—get stronger, build some muscle, lose some fat, or fix some problem areas. Some just need to focus on one or two of those goals—others all of them. But for most, the task set before them is similar to that faced by Odysseus—they just don't know how to get there.

Each of those goals requires following a different path—a significantly different application of progressive-resistance weight training. However, no matter the method you choose, several universal principles apply to any weight training endeavor—get stronger, identify and prioritize weaknesses, learn to deal with and recover from injuries, and the consistency of effort. Above all else, consistency is king. Have the courage to pick one type of training, stick to it for a reasonable length of time, and see where it leads. Call it persistence, stubbornness, or unyielding determination, the unwavering hand is often the hand of the victor. (Somehow, the steel and iron

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used in weight training never fails to reveal the inherent amount of steel and iron of character within you.) The remainder of this book will describe how you can incorporate the Smith Machine into application of these principles along the continuum within a sensible weight-training program that fits your goals. By the end, you should be able to get from where you are now to the actualization of where you want to be.

Right off the bat, I want to impart two messages. First, this book is aimed at two audiences. The relative beginners to weight-training who may have access to a Smith Machine as their only means of weight training (think home users) or have only used selectorized weight-stack type machines at a gym; and experienced weight trainers who are looking for something that can aid in their quest. I don't want you to think that I offer a silver bullet in the form of a Smith Machine as your physique salvation. I'm just trying to build your toolbox here and widen that universe.

Second, and this goes out to all the women reading this—don't skip past the strength training and bodybuilding sections. As nature has dictated, by performing those types of training you won't inadvertently transform yourself into some manly creature, any more than you can transform a fat molecule into a strand of muscle fiber. The female body just doesn't have the natural testosterone to build the body of a man or anything close to that. The image you may hold of typical female powerlifters or bodybuilders is due to their use of male hormones (steroids), lousy diet, and an unforgivingly myopic focus. On the contrary, women who incorporate strength training and bodybuilding into their overall fitness routines accentuate what makes a woman a woman. Suddenly, you have shapely thighs, nice calves and a great butt, not to mention a tight waist and arms, strong shoulders and back. Think Sigourney Weaver in *Aliens*, Linda Hamilton in *Terminator 2*, or Scarlett Johansson in *The Avengers* for a more accurate picture.

Finally, don't forget that all of the methods, techniques and exercises presented in the remainder of this book apply equally to barbell and dumbbell training.

In that vein, let's briefly visit each stop on this weight training continuum—at each juncture, the Smith Machine has a use, purpose and effect. (I'll get into much more detail about how to perform each type of training in the workout section). Success at any point depends on your integrity, consistency, honesty, intelligence and desire.

Strength Training

If you don't know where to start, start with strength. Getting stronger will help you with any of your physique goals. Think of it this way—if you are building a house that you want to live in for a long time, you need to start with a solid foundation. If you like living in big houses, strength training will allow you to lay that large foundation. If you don't like that well-worn analogy, then

think of it this way—it'll make every physical activity you do in your life easier. Strength training's main purpose is to get you stronger than you are now, both physically *and mentally*. (We often forget the mental benefits.) What you do with that strength is up to you. Besides improving muscular strength, this type of training increases bone density, strengthens your tendons and ligaments and conditions your central nervous system to move heavy things. Get good at strength training and you can erect all kinds of stuff on that foundation (bodybuilding, circuit training, athletics, etc.) with no problem.

Traditional strength training workouts are characterized by a few compound, multi-joint movements (squats, deadlifts, cleans, rows, presses), using heavy weights, relatively few sets and ample rest times (2-5 minutes) between those sets for recovery. The workouts are often brief, intense and taxing. Common workout schemes include performing five sets of five reps for each exercise, and working out three times per week in a heavy, medium and light fashion. In the strength training workouts presented later, I'll provide more specifics about the nuances of these options.

Because the weights used are so heavy, most traditional strength training is performed with a barbell and a power rack for safety. For those without that barbell/power rack combo who want to increase their strength, the Smith Machine does offer a good alternative, allowing you to use supra-heavy loads and work within specific ranges of motion. When you are handling weights that you can only lift for 1-5 reps, adherence to proper form is essential.

These are the bare-bones basics of strength training. They're time-tested over the past century, they won't fail you (if you don't fail them) and they just plain work. However, if you have a thirst for more in-depth knowledge in this area (and I hope you do), I encourage you to check out the writings of Dan John, Mark Rippetoe, and Bill Starr, to name a few.

Bodybuilding

If strength training can produce the Farnese Hercules, then bodybuilding gives birth to Michelangelo's David. As Charles Atlas showed us almost a hundred years ago, this is where most guys dream to be—adding significant muscle mass to their body, whether chest, shoulders, arms or legs. Hopefully, along with muscle size, they are considering symmetry and proportion as well, although from decades of experience in weight rooms, Mr. Upper Body America seems to dominate significantly. We're talking hypertrophy-based bodybuilding here folks. This is also where mirrors rule and pants don't lie. Now would be a good time to stop drinking a gallon of whole milk a day, but that's a story for another time. This is also the type of training along the weight lifting continuum that some people refer to when speaking of “toning up”, “body sculpting”, or “shaping up”. They may not realize it, but that's bodybuilding training.

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Although strength training's main purpose is to get you stronger, it will also help you get more muscular. Think of strength training as bodybuilding's older brother with a different attitude (you both do share much of the same DNA)—the older brother may not necessarily care what he looks like, just that he can keep pounding his little brother into the ground whenever he wants. However, while little brother may eventually get all the attention due to his general appearance, he really does need his big strength training brother to help him get there.

That may be an oversimplified and stereotypical analogy, but it's essentially what we are talking about here. To build more muscle, re-shape your body or tone up you need to get stronger, but for bodybuilders you have to balance that purpose with the additional goals of symmetry and proportion so the physique has a pleasing aesthetic flow. Here's the assessment rule—if you've put on some significant muscle mass and then ask someone to identify your most prominent muscle group(s) and they can't decide, you know you've succeeded—that's symmetry. The symmetrical, proportioned physique has no dominant muscle groups and no glaring weaknesses (if only we could all be so lucky, which is the reason for the next section on Weak Point Training). Some of you may remember Steve Reeves as Hercules—that's pure symmetry personified.

As we journey along the continuum from pure strength training, bodybuilding-style hypertrophy-based workouts are characterized by an expanded sandbox of movements, a mix of compound and isolation exercises, using moderate weights, low to moderate reps (6-12), with moderate rest intervals (1-3 minutes), and either brief, high-intensity sessions or traditional lower-intensity, longer duration volume-based sessions. You'll notice that's a lot of moderation there—whereas strength and circuit-based weight training occupy polar extremes of the weight training strata, bodybuilding workouts tend to fall in the middle. Not too light or too heavy, not a lot of rest but definitely not too little, everything just right, as Goldilocks might say.

Circuit Training

Whereas strength training and bodybuilding improve muscular power and size, circuit training focuses on improving muscular endurance while effecting a higher cardiovascular reaction. Studies at The Cooper Institute have continually shown that circuit training is the most time-effective method for enhancing muscular and cardiovascular endurance at the same time. Like the twelve labors of Hercules, it will test your strength and stamina.

What this means is that with circuit training you'll do a series of exercises (a circuit) using moderate weights and moderate to high repetitions with little to no rest between those exercises. After the circuit is complete, take a brief rest, then either perform that circuit again or start a different circuit. You'll get some weight-bearing exercise while your heart rate rises and remains

elevated for the entire workout. This is how the workouts at the Curves™ chain of women's fitness centers operate.

But don't be fooled—just because Curves™ uses this type of training doesn't mean it's just for women, it's less intense or doesn't produce good results. CrossFit™ training takes the circuit training methodology to an entirely new level with circuits composed of Olympic and powerlifting movements, tire flips, and Prowler pushes. It isn't easy. This type of training is also excellent preparation and maintenance conditioning for those in the military, law enforcement and for athletes in general.

With strategic ordering of Smith Machine-based exercises, you can perform circuit training effectively without leaving the confines of the machine and with minimal weight changes between exercises. The circuit training workout section presented later will provide you with a plethora of Smith Machine-based circuits you can try.

Cardiovascular Training

I know what you're thinking. You can't perform cardio work on the Smith Machine—that requires running, jogging, biking, rowing, etc. Yes, you can do those activities. But if you only have about ten minutes to get in an effective cardio session, you might be a little limited there.

Not too long ago, a researcher at the College of Sport and Health Science at Ritsumeikan University discovered that by performing high-intensity intermittent training (HIIT) using anaerobic (weightlifting) exercises you could produce significant cardiovascular effects, including incredible fat burning results. Professor Izumi Tabata was quantifying what many elite athletes, especially those from the former Soviet Eastern Bloc countries, had been practicing for decades—performing short, intense interval training with weights can vastly improve athletic conditioning and make you much leaner.

The Tabata Method encapsulates twenty seconds of ultra-intense exercise, followed by ten seconds of rest, repeated continually within a four minute timeframe. This works best with exercises that involve as many muscles as possible in a single movement, such as deadlifts, squats, cleans, snatches and presses.

Although you can't perform cleans, snatches and some other arcing movements on the Smith Machine, you can use it to effectively perform Tabata squats, front squats, deadlifts, RDLs, military presses, etc. The cardio workout section presented later will give you some ideas on this. I guarantee you'll get the same effect here that you do with a long steady-state cardio session.

Weak Point Training

By now, you should notice a process—get stronger, which builds more muscle, which surfaces strengths and weaknesses, which you need to rebalance and correct. That lands you here. Over time, as you get stronger and add some muscle to your body, you'll begin to notice some areas that just don't respond as well as others. This is normal. What happens next is determined by how honest you are with yourself.

Weak point training is the process of balancing your physique, correcting those weak problem areas, and creating a finished proportional, symmetrical masterpiece of you. Except the honest traveler will find the task is never quite finished.

What we need here are specific exercises, techniques and methodologies based on goals, weaknesses and problem areas. For men, this might be more leg size, a wider back or more upper chest. Ladies often complain of unshapely thighs and that thing hanging down from the back of their arms. The section on weak point training workouts presented later will identify these common weaknesses and provide you with a path to correct them using the Smith Machine.

Injury Rehab

Reward and accomplishment require risk. Weight training, in any permutation, is an inherently risky endeavor (as are soccer, basketball, skiing, biking, etc.) and it's virtually impossible to avoid being injured at some point. Whether in the gym or outside of it, eventually a physical or mental lapse will cause something to go awry. Most people don't know how to deal with this, especially the strategy of using specialized weight training to rebuild the injured area.

Because the Smith Machine offers similar benefits to a power rack, especially concerning limiting the range of motion, this can be used to assist in the recovery of many injuries. Coupled with a systematic method of weight, rep and tempo changes, you can heal most acute low back, shoulder, knee and elbow injuries using the Smith Machine as part of your overall rehab strategy.

The Injury Rehab section presented later will detail specifics on how to plan and execute your recovery from these ailments as well as train around them. You may need to swallow your pride during this process (and perhaps hubris got you here in the first place), but the alternative could be much worse—neglecting these injuries often leads to chronic problems which can curtail your weight training career permanently.

Periodization

Regardless of which training path you follow, eventually progress will halt. It's at these times I remember one of the central messages from strength coach Dan John, "Everything works...for about six weeks." In my head, this is followed by the distant voice of former Mr. Olympia Larry Scott saying, "you've gone stale, it's time for change" (and betraying my age, accompanied by the Motley Crüe song of similar name forever etched into my brain during my earliest lifting sessions).

The answer to this is of course, periodization.

This is where the kids would text, "WTF?"

Here are the basics.

Although periodization training has been around since the ancient Greeks prepared for the original Olympic Games, Soviet sport scientist Dmitri Matveyev first formalized the general training concept of periodization (cycle training) in the 1960s, as a method for mapping out the entire year's training program through periods of maximal and submaximal work (intensity). This method is based on the results of scientific research on how best to develop an athlete to his/her fullest potential. The rationale behind periodization is that *you cannot train the same way all the time*. (Read that last sentence again.) To do so will cause stagnation and plateaus in strength, muscle growth, fat loss—basically, everything. I don't know your goals, but I don't think you want this.

By performing different types of weight training over a prolonged period of time you can make steady progress, achieving peak performance, fat loss, conditioning and strength and muscular development at specified times. This helps alleviate boredom and keeps the body adapting. Just keeping yourself interested and motivated to train over a long period of time is often the biggest hurdle and one of the most important characteristics for success in any fitness-oriented endeavor.

Now, here comes the rub—periodization requires planning. Which is why periodization doesn't work for most—by nature, people aren't planners. But they do like structure.

I'm going to keep this whole thing simple for you. To implement periodization into your fitness schedule, every 6-8 weeks I want you to take a week of active rest (go for a walk, play a little tennis or whatever you might like to do—this is a great time to paint the fence, clean the garage or take mini-vacations with the kids). Then, when you return to the weights, switch to any other type of training listed above (strength training, bodybuilding, weak point training, circuit training) other than the one you just completed—for a few weeks. Repeat this process forever. Now, the catch is you need to intelligently switch from one type of training to another. What does that mean? It means that if your primary goal is to get stronger, then most of the time you need to be strength

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training. That translates into alternating between strength training for 6-8 weeks, and then some other type of training for a couple weeks, then right back to strength training. The key is that strength training is what you do most of the time. What you don't want to do is just rotate between all different kinds of training. If you do that, you either don't have a plan or don't know what you want. Most people know what they want (they just don't know how to get there or lack the fortitude for the journey). Start there.

This works for anyone, regardless of primary goal. If you fancy yourself a powerlifter and you practice strength training, take that week of active rest, then come back and do some relatively heavy circuit training. For aspiring bodybuilders, you know you need to spend 6-8 weeks fixing your weaknesses with weak point training. In addition, cardio nuts who can't do anything slowly might want to spend the next 6-8 weeks building a stronger foundation with strength training. Believe me, your level of cardio fitness will still be there when you get back—in fact, it should be a lot higher.



The real lesson with periodization and with weight training in general is that not every workout needs to be Armageddon or Sisyphean in nature. Both Icarus and Goldilocks have been telling us this since we were in grade school. Just like your life, there are periods of high stress and relative relaxation. Except here, you get to exert some control when each happens. To wrap up this section, if you ask which type of training is best for you, the answer, in every case, is all of them.

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