

RIPPE TOES - STARTING STRENGTH FAQ

I. Introduction	4
Purpose	4
Scope	4
Target Audience	4
Why should I do this program?	5
Why shouldn't I mess with it?	5
Program Basics	7
Credits	9
The Original Threads	10
The Exercises	11
The Squat	11
<i>The Squat, Part 1</i>	<i>11</i>
<i>The Squat, Part 2</i>	<i>15</i>
<i>The Squat, Part 3</i>	<i>18</i>
<i>The Squat, Part 4</i>	<i>21</i>
The Bench Press	24
<i>The Bench Press, Part 1</i>	<i>24</i>
<i>The Bench Press, Part 2</i>	<i>28</i>
The Deadlift	31
<i>The Deadlift, Part 1</i>	<i>31</i>
<i>The Deadlift, Part 2</i>	<i>32</i>

The Power Clean	36
The Press	39
The Row	41
<i>The Row, Part 1</i>	<i>41</i>
<i>The Row, Part 2</i>	<i>44</i>
Accessory Exercises	46
Abdominals (teh 6-pakc)	46
Biceps (teh biceps)	48
Dips	50
Pullups/Chinups	53
Other Questions	56
Programming	60
The basics	60
<i>The basics, Part 1</i>	<i>60</i>
<i>The basics, Part 2</i>	<i>62</i>
Stalling and Resetting	64
<i>Stalling and Resetting, Part 1</i>	<i>64</i>
<i>Stalling and Resetting, Part 2</i>	<i>68</i>
What to do after Rippetoe	71
<i>What to do after Rippetoe, Part 1</i>	<i>71</i>
<i>What to do after Rippetoe, Part 2</i>	<i>75</i>
<i>What to do after Rippetoe, Part 3</i>	<i>79</i>
General Questions	84

<i>General Questions, Part 1</i>	84
<i>General Questions, Part 2</i>	87
Nutrition and Supplements	96
General Questions	96
Chubbies	100
Skinnies	102
Athlete	105
Cardio Questions	106
Routine-Specific Questions	110
VI. Routine-Specific Questions, Part 1	110
Routine-Specific Questions, Part 2	113
VI. Routine-Specific Questions, Part 3	117
Will This Program Meet My Goals?	120
Will This Program Meet My Goals? Part 1	120
Will This Program Meet My Goals? Part 2	123
Will This Program Meet My Goals? Part 3	127
General Weight Training Questions	129
General Weight Training Questions, Part 1	129
General Weight Training Questions, Part 3	136
General Weight Training Questions, Part 4	140

I. Introduction

Purpose

The purpose of this write-up is twofold:

General - to provide a repository of useful information for the novice trainee

Specific - to provide a coherent, linked guide to the Rippetoe Starting Strength training "theory" and to answer the 100s of questions that have been asked on this incredibly simple program

Scope

This is primarily intended for the novice trainee who is new to the weight-room. There are many statements which apply to novices only, not intermediates or advanced/elite athletes. The program can be used by individuals of varying training levels, but the write-up is directed to the newb.

Target Audience

The exact intended target audience of the book Starting Strength is the coach of pubescent/teenage kids who want to get bigger and stronger, frequently for a sport. The book, and the program contained within, emphasizes the gradual but consistent progression in weight of a handful of basic exercises with specific and incredibly detailed recommendations on proper technique. As a result, it is very useful for any newcomer to the weight training game, as well as anyone who is making a "comeback" to the iron sport. If you haven't trained in awhile and want to get back into weightlifting, then the Starting Strength program will probably be ideal for you, as it will help get you back into shape rapidly. If you are new to weight training, then this program, as simple as it is, is arguably the ideal method for the first several months of your training.

Again, this program (and the book) is for:

- 1) Strength training coaches
- 2) Newcomers to the weight room
- 3) "Old timers" looking to get back into lifting shape
- 4) Anyone who hasn't mastered the squat, bench and dead-lift, but would like to.

If you have been using exclusively nautilus machines, Hammer Strength machines, or body-weight-type workouts, then this workout will also be a great introductory weight training program to teach you the "zen of the iron."

The book itself contains a wealth of information and detail on the "big 3" exercises, as well as power cleans and standing overhead presses. The detail and exacting cause/effect relationships with technique and technique flaws that is described in the book is, in my opinion, priceless. So in addition to the above-mentioned individuals, even non-coaches who are advanced in their weight training can learn quite a bit about the most important and useful exercises being done in the weight room.

Why should I do this program?

Why are there so many questions on this program? Some say it is a fad, nothing more, nothing less. However, it is a fad that, along with Bill Starr's training methods, is now going on 3 decades of use. That is pretty long lasting for a 'fad'. It may be a 'fad' to the small fishbowl of training that is the bodybuilding.com Workout Program regulars, but to weight trainees worldwide, it is anything but a fad.

The program stresses the tried-and-true basics of effective compound exercises and weight progression on those exercises with an emphasis on exact technique. There is nothing "magical" about the program. It works because it is rooted in common sense and decades of experience.

It is a beginner's weight training program. As such, many of the specifics of the program (no machines, barbells only, very few exercises, very low complexity) will simply not work for someone who is more experienced or has a specific goal in mind (i.e. increase vertical jump, increase speed, win a national-level power-lifting contest or a bodybuilding contest). When reading through the program, ensure that you keep a sense of the Target Audience in your head, so you know to whom the information contained within is address.

In the end, the newcomer should do this program because it will get him strong and will teach him what he needs to know to form a basis of a "successful career" in weight training. There is no single "best way", but any different way Not everyone wants to be a professional bodybuilder/powerlifter/weightlifter/strongman. Most guys would like to be stronger and have some muscle. This program will help them take the first, crucial steps toward that goal, and the program ensures that those steps are solid, aimed in the right direction, and can set you up for further success in your weight training endeavors.

Why shouldn't I mess with it?

The majority of this is from Madcow2, with my own interjections and statements thrown in for good measure. So quote madcow, but understand that I threw my own \$0.02 in there as well, and I did so in a majestically seamless manner. :)

The reason why people really don't like guys altering Rippetoe's novice program is because the target audience of this program doesn't know anywhere near enough about training to make appropriate adjustments. You'll see newbs who are 135 lbs complaining

about their "biceps peaks", and they want to train their upper-inner chest because it's a weak point. This is laughable simply because their entire body is one big weak link! In reality, they aren't really weak, they are simply untrained.

The flip side is that anyone who actually needs any type of specialized instruction is already well-trained and conditioned, and they have identified true weak points...well, they shouldn't be using this program's template! They have specific needs that require addressing. The novice's only "specific need" is to get bigger and stronger overall. The target audience is not someone who actually has weak points, the target audience is someone who hasn't been training long enough to know what a true weak point is.

On bodybuilding.com, those issues are brought to bear multiple times on a daily basis again and again, and every single person thinks they are special or different. So many clueless kids seem to somehow have some gem of knowledge to share from an uncle who used to squat 1000lbs or a PT at the gym they just joined who got his "official personal trainer certification" out of a cereal box, but they lack the knowledge and experience to apply said gem to the appropriate trainee in the appropriate context.

The reasons against deviation from this program are very logical - an untrained guy is untrained, he is one big weak point. He won't know what his true weak point is until he has spent many months (and possibly even a few years) training and learning how his body responds to overall training. Is his upper chest REALLY a weak-point? Yeah, his upper chest is a weak-point because his entire chest is weak! He needs to spend time training his chest with the basic pectoral developing exercises before he decides to specialize in incline DB flies and cable crosses and reverse pec dec inverted flyswatters.

Does he honestly have a "poor biceps peak"? Definitely! He honestly has a very poor biceps peak, and that is easy to understand because he is a buck thirty, soaking wet, with 14" arms. Yup, his biceps peak definitely sucks!

Honestly, how can one know anything about training if they themselves are untrained. They have no experience, no point of comparison, no idea of what truly works because they simply haven't experienced training themselves. You can read a science book and learn that a shark is in a specific genus/species. That is knowledge and is easily applied, because it is based on factual science. Training is NOT factual science, it is an art-form with a VAGUE and unproved background in science.

How would an automotive engineer take the advice of a 13-year old who had never driven? The 13-year old is convinced he knows the best way to design a transmission so that it shifts smoothly because he reads Motor Trend each month, yet the 13-year old has driven nothing more challenging than his grandfather's golf cart. As a general rule, a woman will be resistant to taking the advice of a man when it comes time to dealing with the emotional events that occur during "that time of the month", for reasons that should be quite obvious. Are we seeing the connection here?

While the "don't mess with the program!" attitude is dogmatic, and "everyone responds differently because we're all individuals, blah blah blah", the idea of sticking with the program for its intended audience is, in fact, logical and in 99% of the cases it is doing the perspective trainee a favor. Just about every single person who wanted to change the program but didn't has been very very happy they stuck with it. The ones that seem to complain are the ones that have tried to change it to the point that it bears little resemblance to the original program.

Now, since 90% of the people that come to bodybuilding.com are novices, Rippetoe's program gets recommended a lot because it's good, it drives home proper understanding and fundamentals, gets them started on the right foot, they learn what is important in programming, and it provides a plan as to how to execute and how to adjust the weights on a session to session basis. Truly, this is really the key to all successful programs even though this information is totally absent or for most people on BBing sites and in magazines.

Ripp's way certainly isn't the only way but it's a damn good method that is as good as any. It is simple, it works, it provides an ideal foundation, and it SHOULD be easy to follow.

Of course, if it were truly that easy, I wouldn't be re-writing this thread and it wouldn't have so many pages worth of information and explanation, but that is another story.

Program Basics

There are 3 "Starting Strength" programs presently.

The "original novice program", as written in Starting Strength, is as follows:

Workout A	Workout B
3x5 Squat	3x5 Squat
3x5 Bench Press	3x5 Standing military press
1x5 Deadlift	3x5 Power cleans

You train on 3 nonconsecutive days per week.

So week 1 might look like:

Monday - Workout A
Wednesday - Workout B
Friday - Workout A

Week 2:

Monday - Workout B

Wednesday - Workout A

Friday - Workout B

If you choose Tuesday/Thursday/Saturday or Sunday/Tuesday/Thursday as your workout days, the planets won't get knocked out of alignment, so don't sweat this one, as long as you get in 3 workouts on 3 non-consecutive days each week. NO, YOU CANNOT TRAIN 2 CONSECUTIVE DAYS, so don't ask.

In Practical Programming, due out the 1st or 2nd week of December 2006, Rippetoe recommends that a set/rep scheme of 5x3 (5 sets, 3 reps, instead of 3 sets, 5 reps) can be performed on the power clean, and is possibly advantageous, especially once power clean technique improves.

He also allows for replacing the clean with the bent row, with certain technique caveats (again, see the Exercise section in this write-up, as always, check the Table of Contents) He prefers the power clean, but in many cases, the power clean is not safely performed, or is impractical.

This is the format that I have used and recommended for the majority of peeps new to weight training. I suppose we can refer to it as "Kethnaab's novice program adjustment"

Workout A	Workout B
3x5 Squat	3x5 Squat
3x5 Bench Press	3x5 Standing military press
1x5 Deadlift	3x5 Pendlay Rows

Essentially, the programs are the same. Day 1 is a squat, a press, and a heavy pull from the floor. Day 2 is a squat, a press, and a lighter pull from the floor. Simple, easy, basic and effective.

All sets listed are "work sets" in the format "sets x reps per set". The nomenclature does not include warmups (discussed in Section V - Specific Routine Questions - look in the Table of Contents). All sets are done with the same weight (known as "sets across" - look in Table of Contents, Section VIII for further info). You should be working quite hard by the last set of each exercise, but ALL exercises are done with perfect technique (look in the Exercise section of the Table of Contents)

What? Were you looking for some incredibly complex training program? 3 exercises per day, 3 times per week? That's it????

Considering all the discussion on this program, you may have been expecting it to contain intricate details and incredibly complex variables, and all you get is a full body workout, 3 days a week?

Yup, it's that simple. These are the 2 base programs that everyone should start with. Pick one that suits your abilities/goals. For more info on the why's and wherefore's, and the specific details, read on.

Credits

This program, in no way, shape or form, is a representation of MY independent work. The write-up is a representation of information contained within the book, *Starting Strength*, the brainchild of Mark Rippetoe, with assistance from Lon Kilgore. It is, as it reads on the front page, a "Simple and Practical Guide for Coaching Beginners". However, the knowledge contained within is far-reaching in potential impact when dealing with anyone who is new to the weight game. If you aren't a coach, you can benefit immensely from this book from the incredibly detailed and exact descriptions and advice given on 5 of the most important lifts in weight training.

There are 8 chapters, 5 of which are dedicated to providing pictures, visual, physical and verbal cues, and incredibly detailed descriptions of the proper (and also improper) methods of performing the squat, deadlift, bench press, overhead press and power clean. You thought you knew how to do these exercises until you read up on them, and you learn more in those pages than you knew in the first place. There is also an intro, as well as chapters on programming (i.e. planned progression) and mistakes/fallacies with regards to youth weight training.

If you give a crap about training, I highly recommend you buy the book. Apparently, I'm not the only one that recommends the book.

Originally Posted by Jim Wendler:

(Starting Strength) should be owned by just about everyone. It s a shame that this book hadn t come out sooner. In an age where complexity and overcomplicated training has become the norm, this book is a breath of fresh air. I honestly believe that this book, more than just about any other book on lifting weights or training, should be in everyone s bookcase, office or gym bag.

Anyway, all credit goes to Mark Rippetoe, as I stated earlier. I simply took the ideas contained within the book and attempted to promote the ideas because, quite simply, they work. Sometimes a very complex idea requires a very simplistic solution. *Starting Strength* details that simplistic solution, and *Practical Programming* follows up with information to maintain the trainee's progress.

Answering the same things over and over again ad nauseam gets old, and when something on the internet becomes very popular and generates a lot of questions, it becomes time to write up the almighty "FAQ - Frequently Asked Questions."

With this thread, I hope to bring the answers to all the questions that have been asked in the last 10 months on this program, in a format that is both easily and intuitively searchable and has a linked Table of Contents. I'm going to do my best to answer every conceivable question, and I would respectfully request that all peeps who wish to help out the newbs asking questions on Rippetoe's program...please direct them to this thread with the instruction to search and use the Table of Contents. :)

The Exercises

This section will give a relatively detailed description of the exercises performed. It includes videos of proper (and improper!) execution of most of the exercises, as well as a variety of links. If you want a more detailed description, go by Starting Strength for yourself.

Make sure, if you wish to have your technique assessed for any particular exercise, that you post a video of yourself to youtube, putfile or google video. You will get several people willing to help you with your technique. If your technique sucks, then admit it. If a ton of knowledgeable people tell you that your technique is jacked, listen to them. Don't be a dick and argue.

The Squat

The Squat, Part 1

Question - How do I properly perform a squat?

The basics:

- 1) Get under the bar with your chest high and your upper and lower back tight.
- 2) Ensure your position is balanced from left to right, grip the bar, ensuring your grip is balanced from left to right.
- 3) Grip the bar as close to your head as possible. This will test your shoulder, elbow and wrist joint flexibility. The closer your hands are (within reason, your hands shouldn't touch your ears), the tighter your upper back will be, and the better the bar will sit on your back. Use a thumbless grip. You aren't supporting the bar with your hands. You're holding the bar DOWN against your back. Your wrist should NOT bend in either direction. It should be a straight line from your forearm across the wrist onto your hand.

4) Place the bar on your back across the low portion of the traps and rear delts (low bar position). Elevate your elbows as high behind you as possible, while keeping your chest upright. If your pectorals are sore, you will feel this as a deep stretch in the pectorals and possibly delts.

5) Inhale as deeply as possible, ensure your back is tight, bend down a bit and squat the bar out of the rack. Do NOT LEAN FORWARD and perform a good morning to get the bar out of the rack. You will lose tightness this way and, as a novice, expose yourself to injury.

6) Stand fully upright with the bar across your lower traps and rear delts, and clear the bar from the rack in 3 steps:

** Take 1 step backward with one foot to clear the rack

** Take 1 step backward with the other (trail) foot so that your feet are even

** Take 1 step sideways with the trail foot so that you get your heels to proper stance width.

Do NOT perform a "backward walk" with the bar. No more than 3 steps are necessary, total. Fidgeting with a few hundred pounds on your shoulders gets tiring. Squats are difficult enough as it is, no need to tire yourself needlessly prior to exercise execution with needless steps.

7) Make necessary adjustments so that stance width is proper, i.e. heels at ~ shoulder width, feet pointed in a "neutral" manner, $\sim 30^\circ$ outward. $\sim 30^\circ$ is "neutral" because as you widen your stance, your toes need to point outward in order to maintain proper patellar alignment with the thigh bones. When your heels are at approximately shoulder width, your toes will need to be pointed $\sim 30^\circ$ outward.

8) Keep your chest high and the bar balanced above the midfoot, take a deep breath, hold it, and squat down all the way. Do not look up, do not look down, do not look side to side. Keep your eyes focused on a point that is $\sim 6-10'$ ahead of you on the floor, or if you have a wall close enough, focus on a point a few feet above the floor along the wall.

9) 4 basics of execution:

** Sit back (stick your butt out!)

** Squat down (bending/flexing the knees)

** Balance the weight by keeping your chest and shoulders upright while your upper body leans forward slightly to keep the bar above the midfoot

** "Keep knees tight" - i.e. don't relax your quads and simply "drop" into the bottom position, keep your thigh muscles tight throughout the motion

10) Once you have squatted down all the way into "the hole", without pausing or bouncing (more on this later), stand back up.

11) As you raise out of "the hole", you will be doing 3 basic things almost simultaneously:

- ** You will be pushing your butt upward
- ** You will be pushing your shoulders upward
- ** You will be extending your knees
- ** You will be forcefully contracting your upper and lower back muscles isometrically to maintain tightness in your torso

Do not begin to exhale (blow out) until you are near to completion of the repetition. This will cause you to lose tightness.

EDIT: More squat info; <http://forum.bodybuilding.com/showpo...1&postcount=47>

Some videos for observation:

Squat:

click on proper box to the right

Excellent written description and video demonstration of the back squat with athletic (medium) stance

Tom Platz squats 500x23 reps - athletic stance

Francis Tournefier Olympic squats 641 and 661 (ignore the GMs at the end)

Question - What kind of squat should I do? ATG? Olympic? Front? What stance should I use?

The "back squat" is the general term for ANY exercise where the lifter performs a deep knee bend with a barbell across the back of the shoulders. Differentiation of the depth of the squat, the amount of bend in the knee, the positioning and width of foot placement and the use of various other implements provides for a host of squat variations, each with their own advantages, each to be used in certain specific situations.

The athletic squat is a back squat performed with the feet at a width that is generally just slightly wider than the shoulders. The feet are angled out in line with the knees. This foot positioning will be the one with the most carryover to the majority of athletic endeavors, and does the best job at ensuring full thigh development, both in the front of the thigh (the quadriceps) and the rear of the thigh (the hamstrings and glutes). It is the squat variation this is performed in the basic Starting Strength program.

The olympic squat is a back squat where the foot positioning is closer than shoulder width and the toes typically point nearly straight forward. These tend to be more quadriceps-dominant, and are very useful for Olympic lifters (hence the name). This is an excellent exercise as well, but it will not be used until the trainee advances further and chooses to specialize in Olympic lifting or physique competition.

The powerlifting squat refers to the extremely wide "sumo" stance that powerlifters favor while performing the squat. It generally allows them to use more weight, but this is due to mechanical advantage rather than even, overall muscular stimulation of the thighs. This variation is not used in the program.

The box squat is a phenomenal exercise for an aspiring powerlifter. Details of this exercise and its execution are outside the scope of this program. Box squats are not to be used in this program. They are outstanding, but not appropriate for the purposes of this discussion.

The ATG squat (ATG = ass to grass/ground) makes reference to ANY of the above squat variations whereby the trainee lowers his body as low as he possibly can. This can be both advantageous or dangerous, depending upon the individual. Generally, hamstring flexibility will limit the absolute depth because, in the lowest portion (the "hole") of the squat, the hamstrings get stretched hard, and will pull the hips under the body, which can cause severe strain to the lumbar area. That being said, you should ALWAYS go as low as you can without causing that hip rounding to take place, because this will stimulate the best overall gains. "ATG" is a term that will be different for each person due to hamstring flexibility and structure, as well as overall musculature. Endeavor to stretch your hamstrings frequently to avoid lower back injury, and to allow for the most complete ROM (range of motion). Also note that some people say they do "ATG squats", when in reality, they barely hit parallel. The opposite end of the spectrum are those that go incredibly deep as an excuse for using very light weight.

The front squat is an outstanding variation of the squat, except that it is performed with the barbell resting across the FRONT of the shoulders, in front of the neck. It is a variation which will maximally stress the quadriceps, but can be very difficult to perform from a mechanical perspective. If possible, front squats are added in the Wednesday workout once more advanced periodization and exercise selection is necessary for the trainee.

The athletic squat is a basic, medium-stance squat that will be used in this program for a few reasons.

- 1) It tends to do the best job of developing the entire thigh (quad, hammie and the "little thigh muscles") evenly and in proportion. Front and Olympic squats tend to be a bit quad-dominant, powerlifting and especially box squats tend to be more ham/glute-dominant

- 2) The medium-stance "athletic" squat has the most natural carryover to athletics and sports. Rarely will you purposely use a stance that is extremely wide or close while playing any type of sport.

- 3) The medium-stance "athletic" squat will give you the most "bang for your buck" as far as overall strength development. You might be able to lift more with a powerlifting style

stance, but that is due to physics, not additional muscle involvement (in fact, one could say it involves a reduction in muscular involvement)

So there you have it. The stance should be approximately shoulder width, give or take an inch or three.

The Squat, Part 2

Question – Where are some other videos of the different squats?

Medium-stance "athletic" squat - the squat of choice:

Tom Platz rips 500+ for 23

Technique Notes

- 1) Notice how tight he gets under the bar before he lifts it out.
- 2) Note stance width and knee tracking - stance is just beyond shoulder width, knees track over the toes
- 3) Note depth of squats
- 4) Note how he has a slight forward lean, but he keeps his chest and shoulders "square", i.e. they are elevated and pointed forward at all times

Powerlifting squats

Sam Byrd takes 1-grand for a ride at a BW of 198. :eek:

Mike Miller's 1220-lb record powerlifting squat.

Technique Notes

- 1) Note how wide his stance is. I don't provide this as a demonstration of how you should do them, I provide this as a demonstration of a very wide stance.
- 2) Yes, the depth is rather questionable
- 3) 1220-lbs would crush me before I even tried bending my knees, so who am I to complain?

Olympic Squat

Here is bodybuilding.com's own Hola Bola performing them.

A few technique points:

- 1) Notice that his heels are close together, and his knees track inline with his toes
- 2) He goes to parallel and slightly beyond on a few of the reps, but doesn't stop above parallel (don't be afraid to hit depth)
- 3) His first 7 reps are the perfect example of how the hips begin the motion out of the hole a split second before the shoulders drive upward. On his eighth, he fatigues (imagine that, fatiguing after 8x405!) and he has to fight hard to drive his shoulders upward

ATG Squatting

Here is some insanely deep and heavy "ATG" style squatting.

A few technique points

1) Deep...deep...deep! Note that his heels are approximately shoulder width. This could pass for "classic" Olympic style, although it is somewhat wider than typical for a straight Olympic squat. I'd be inclined to lean toward "medium/athletic" stance.

2) At the very bottom his knees track inward slightly. This is very typical when the weights get heavy, as well as very typical in the untrained athlete. It's not because the thigh adductors are too strong for the thigh abductors, either. In the untrained newb, it's typically because the adductors aren't strong enough as compared with the glutes, and the quad ends up taking over thigh adductor function, which tracks the knees inward. With heavy weights, it is insanely difficult NOT to do this, unless you take a very wide stance.

3) Don't end your set like he ends his 3rd set...the gym owner will get pissed.

4) Ignore the good mornings, he does them differently than you need to

Front squat

Here is a video of Hossein Rezazadeh front squatting 617 for 2 easy reps.

Check it at 54 seconds for some sweet front squats

Here is bodybuilding.com's own W8isGR8 demonstrating a front squat to incredible depth.

Technique notes:

1) Deep as heck and perfectly balanced

2) At bottom of motion, sacrum area looks like it "tucks" underneath and forward. Most people aren't going to be flexible enough to perform them so deep without serious pain in their lower backs. When you go this deep, your hamstrings tend to pull hard at your sacrum, causing it to tilt posterior and also causing your spinal erectors to go into a fit trying to keep your lower back in its natural lordotic arch.

3) Bar didn't travel forward or back, it remained over the midfoot

4) Despite incredible depth, the heels stayed down

Box squats

Good description, guy sits back too fast during the video

Question - Do I really need to squat if my legs are already big?

First off, 3/4 of the people who ask this question are pussies. Don't be afraid of the squat. Learn to embrace it.

Having said that, I'll give you the benefit of the doubt and we'll assume you are part of the 1/4 that isn't afraid of the squat. Determine what your goals are. If you want to get as big as possible, all over, then you will most definitely want to become a master of the squat. Your physical structure might not be ideal for the squat. You may have zero aspirations of becoming a powerlifting squat champion. You might not really give a flying fig how much you squat.

But if you SERIOUSLY want to be as large as you possibly can, all over, then yes, you will squat, even if you already have big legs.

Originally Posted by Mark Rippetoe, pg. 19, Starting Strength:

There is simply no other exercise, and certainly no machine, that produces the level of central nervous system activity, improved balance and coordination, skeletal loading and bone density, muscular stimulation and growth, connective tissue stress and strength, psychological demand and toughness, and overall systemic conditioning as the correctly performed full squat. Squats spur full body growth when combined with full body training much better than full body training without squats.

If you want to look like some Abercrombie model, then find another program and enjoy your nice, easy training style. If you are serious about adding muscle to your frame, then get under the damn bar and make it happen.

Question – What about the leg press?

Originally Posted by Mark Rippetoe, pg. 61, Starting Strength

...(the leg press) restrict(s) movement in body segments that normally adjust position during the squat, thus restricting the expression of normal biomechanics...(it) is particularly heinous in that it allows the use of huge weights, and therefore facilitates unwarranted bragging. Please slap the next person that tells you he leg-pressed a thousand pounds. A 1000-lb. leg press is as irrelevant as a 500 lb. quarter-squat.

The leg press is an excellent tool for an intermediate or advanced physique athlete to use for quad and/or glute and/or hamstring development. However, it has NO place in the routine of a novice trainee, and it has no place in this program, despite its uses and advantages.

Question - Can I use a manta ray when squatting?

If you have had shoulder problems, the manta ray can be a pretty useful piece of equipment. It's use is certainly not advised unless absolutely necessary, because it lengthens the lever arm between the weight and the rotation point (i.e. the barbell and the hips), which can cause problems with the lower back. It can also "wobble around" atop the shoulders causing a load shift affect, which also can cause problems with the lower back.

However, if you are experienced enough with the weights to know you NEED a manta ray, then by all means, it is better to squat with one than to NOT squat without one.

If, however, you simply want to use a manta ray for comfort's sake, then don't bother squatting at all. The amount of pain tolerance from a hard, heavy set of squats will be too much for you if you can't take a little bar sitting across your shoulders. Perhaps you should take up a different hobby...knitting, for example.

Question - Can I use a safety squat bar or a buffalo bar while squatting?

Assuming you have had an injury of some sort, or you have shoulder joint flexibility problems for whatever reason, then absolutely. The buffalo bar and safety squat bar

both are outstanding pieces of equipment, especially for the lifter who has had shoulder problems *raises hand and points to self*. They certainly can create a different training affect than squatting with a conventional bar setup, but the training affect can be quite beneficial, especially for those with shoulder injuries who cannot squat otherwise.

Understand, however, that the novice trainee should NOT choose these devices over the basic barbell back squat. Their use should be limited to those who have injuries and cannot perform a barbell squat.

EDITOR'S NOTE - Both the buffalo bar and the Safety Squat bar are used by knowledgeable powerlifters as assistance lifting devices. Obviously my statements do not apply to them, as they would have no reason to read a "novice training program description" for anything other than mild curiosity's sake.

The Squat, Part 3

Question - Are deep squats bad for the knees?

Deep, controlled squats not only are NOT "bad for the knees", they are, in fact, good for the knees. Properly performed, they evenly and proportionately strengthen all muscles which stabilize and control the knee (in addition to strengthening the muscles of the hip and posterior chain, upper back, shoulder girdle etc). When the hips are lowered in a controlled fashion below the level of the top of the patella, full hip flexion has occurred, and this will activate the hamstrings and glutes. In doing so, the hamstrings are stretched at the bottom of the motion and they pull the tibia backwards (toward da' butt) which counteracts the forward-pulling force the quadriceps apply during the motion. As a result, the stress on the knee tendons is lessened since the hamstrings assist the patellar tendon in stabilization of the knee. A muscle supporting a tendon which supports the kneecap is going to be better than the tendon having to take up the entirety of the strain by itself.

Think about Olympic lifters. They squat VERY deep (almost ridiculously deep) all the time, frequently 5 or 6 times weekly, with very heavy weight. If deep squats were so bad for their knees, they wouldn't be able to squat that deep, that often, and that heavy.

Partial squats, however, will NOT activate the hamstrings, and the amount of shearing force on the patellar tendon increases exponentially. What WILL happen if you do partial squats is that your quadriceps will become disproportionately strong as compared to your hamstrings, and the following are likely results:

- 1) In partial squats, the hamstrings aren't activated, which means the patellar tendon takes up all the strain/stress/pull during squats. As a result, fatigue and damage to the tendon can accumulate because tendons recover MUCH slower than muscles. Any type of action involving knee bend can then cause further stress and strain during daily activity. This is asking for trouble. If the hamstring is strong, it drastically reduces the

amount of stress on the patellar tendon. Full squats make the hamstrings strong. Partial squats allow the hamstrings to become weak. Weak hamstrings are bad Bad BAD.

2) Partial squats develop the quads and neglect the hamstrings. Weak hamstrings coupled with strong quads result in hamstring pulls while sprinting, starting or stopping suddenly, playing sports, etc.. They frequently occur as the result of muscular imbalances across the knee joint. Strong quadriceps and weaker hamstrings result in a knee joint that is unstable during rapid acceleration and slowing, and the hamstrings are unable to counteract the powerful forces that occur during sudden stops and starts. In other words, you do a sprint with extra-strong quads and weak hammies, and you are begging for a pulled hamstring because your hamstring isn't as strong as the quads and isn't able to perform an adequate eccentric contraction to keep your knee joint from hyperextending during a sprint. As a result, you strain the hamstring because, although it isn't strong enough to do the job, it will hurt itself trying.

3) In sports, your acceleration will be weak, as will your jumping ability, as a result of underdeveloped hamstrings and hips. Poor speed/acceleration = poor performance

4) You will end up using stupidly heavy weights in the partial squat due to the mechanical advantage afforded by partial squats, and you put your back and even shoulder girdle at risk due to the extreme loading of the spine.

Originally Posted by Mark Rippetoe, pg 18, Starting Strength

If it's too heavy to squat below parallel, it's too heavy to have on the back. Besides, everytime you do partial squats, Jesus kills a kitten. Don't be a pussy, save the kittens. Squat deep.

Question - Are there light days, or do I lift as heavy as I can all the time?

The idea of this program is to maintain "linear progress" at all times. Once your technique is proper, EVERY SINGLE WORKOUT should be an increase in weight on each of your exercises, even if it is only a few pounds of increase at a time. You, eventually, will be unable to add weight to the bar each time you train. At this point in time, you may need to either take a rest, "reset" your squat (discussed in Section III) or perform a "deload" (also discussed in Section III). Until this time, you should try to add weight to the bar and maintain your technique.

That being said, "old farts" like me simply cannot squat hard and heavy 3x per week. If you are older or have had problematic knees, you may find it necessary to make adjustments and make Wednesday a "light" squat day, or perhaps skip squats on those days altogether and perform another exercise (not recommended).

Now then, before anybody gets any wise ideas, if you aren't old enough to have voted G-Dub into office the first time, DO NOT SKIP SQUATS ON THIS PROGRAM.

Get it? Old dudes can make those adjustments. Young snots cannot. Suck it up. :D

Question - Can I deadlift first, instead of doing squats first? Do I really need to squat everyday?

Deadlifts are an outstanding exercise, however, squatting before deadlifting is necessary for a variety of reasons

Squats serve as a more efficient and general "warmup" and preparation for your weight training sessions than deadlifts.

Deadlifts will fatigue the upper and especially the lower back muscles prior to beginning the squats, which can definitely be hazardous to the health of a trainee, especially a new trainee. The last thing you want while squatting is a set of spinal erectors that are unable to bear the load. You can still frequently deadlift to near-limit poundages after squatting, but you will NOT be able to do that on your squats if you deadlift first.

Squatting first and squatting everyday is also ideal because it sends a strong growth signal to the entire body.

3 sets of 5 != (does not equal) a set of the fabled "widowmaker" 20-rep squats, where after you're done with the squats, you are done with the training. Your lower body will get taxed during the 3 sets of squats, but a novice won't be able to squat enough weight to leave them unable to properly perform their next exercise, which is a bench press or a deltoid press (the standing press or variation). The lower body rests as you work the upper body with the pressing exercise.

So, as mentioned elsewhere, perform the squat properly as often as possible, and you will maximize growth in your entire body (assuming you train your entire body). Just make sure you do it everyday, and you do it first. If you have bum knees or you're an old fart like me, then you will possibly need to make adjustments. See Section III for some other ideas.

Question - Can I use a back pad while squatting?

Meow.

No. Don't use the "puss pad".

If your back hurts excessively while squatting, then chances are good you aren't flexing your upper back muscles sufficiently to "pad" your skeleton. When you grip the bar, you must keep your hands in toward the body as closely as possible while gripping the bar BEFORE you unrack the bar and start squatting.

In other words, get under the bar, bring your hands in as closely as possible along the bar, grip the bar with a thumbless grip, lift your elbows back and up, and step under the

weight. By keeping your hands close and your elbows back and up, the muscles of your entire shoulder girdle, as well as your trapezius muscles, will all "bunch/hunch up", which will provide significant padding for the bar. Ensure the bar is kept in the "low bar position" at the lower-rear portion of your traps and rear deltoids, and you should be fine.

The main problem with the pad, in addition to making you look like a wuss, is that it tends to throw the center of gravity off. For an experienced trainee, this won't be a problem, they can compensate (and they probably wouldn't ask to use a pad anyway). For a novice trainee, this can be VERY detrimental to proper technique and balance development inherent in the learning process of the squat. So, all joking aside, the pad might help your upper shoulders "feel better" while squatting, but once you get to heavy weight, that little pad won't do jack squat, except for throw off your technique! If you have a shoulder injury, then the pad won't help at all. Look into using a Buffalo Bar, a Safety Squat Bar, or a Manta Ray

The Squat, Part 4

Question - Should I use a block under my heels while squatting?

No, for a variety of reasons.

When you raise the heel substantially during a squat, you shift the weight of your body forward, and as a result, your knees can end up taking a disproportionate share of the load.

Experienced physique athletes sometimes do this so they can get better development in their quads, although they generally will not perform squats this way for long. The average joe does this because they lack the flexibility in their hamstrings to perform a squat to depth without rounding their lower back, and by keeping their heels on a block, they are able to reduce the stretch in their hamstrings.

Here's a little test for you...if you have lower back pain when you try to do deep squats wearing a flat soled shoe (i.e. Chuck Taylor's or wrestling shoes), and you DON'T suffer this same lower back pain when you wear work boots (with a heavy heel) or you squat with your heels up on a block, then guess what?

Your hamstrings are too tight. Don't use a block. Stretch your hamstrings instead. Your knees will thank you in the end. By using a block, you merely mask the symptoms without treating the cause.

Question - Should I be leaning forward a little bit during the squat, or do I try to stand straight up and down?

Some amount of forward lean is natural, and in fact, is necessary. It is impossible, with a free weight barbell, to keep your upper body at a 90 degree angle to the floor. You cannot maintain any form of balance this way and if you try, you will fall onto your rump.

The bar, as it rests on your back, must remain above the midfoot area throughout the range of motion. It is common for a new trainee to lean back too far or, more commonly, lean forward too far. However, some amount of forward lean IS NECESSARY in order to keep the bar over your midfoot. The lower on your back you hold the bar, the more forward lean will be necessary.

The problem is that people have a tendency to lean so far forward that their heels come off the ground, or they end up putting far too much stress on the glutes and lower back and their squat turns into an impromptu good morning. Keep the bar tracking above the midfoot area, and you will be fine, as long as you don't round your back.

- 1) Work on calf and hamstring flexibility
- 2) Do NOT go up on your tiptoes
- 3) Stretch your hamstrings
- 4) Do a better job of warming up
- 5) Stretch your hamstrings.

Your lower back is rounding because your hamstrings are inflexible and your lumbar spine is weak. Maybe only one is true, but for most new trainees, both are true. Your heels came off the ground because you allowed the weight to pull you forward. Again, weak spinal erectors and tight hamstrings are the most frequent culprits.

Sometimes, you simply lose your balance. Until you can correct these issues, don't add weight to the bar. Stretch your hamstrings.

Do this stretch, except keep both legs straight. The lower leg stays flat on the floor with your knee straight and your foot straight up and down (in other words, don't allow your leg to rotate laterally/outward). The other leg also stays straight. This will help "stretch your hips apart" as well as loosen up those banjo-string hammies.

You can also do this stretch with a towel. Same rules apply, keep your legs straight. Another variation is to do these in a doorway. Your lower leg stays flat on the ground and runs through the doorway. The upper leg is held flat against the door frame. Another necessary stretch will be to start in a full squat position with your hands flat on the ground about 2 feet in front of you. Straighten your knees while keeping your hands flat on the ground. You should feel a VERY powerful stretch in your hamstrings. Keeping your knees straight, walk your hands inward toward your feet until you are able to touch your palms to the ground without bending your knees.

Question - Should my knees stay in, or should I push them outward as I squat down?

Most people will need to think about forcing their knees to stay outward during the up and down motion of the squat. It almost feels unnatural for the novice trainee to keep his knees tracking along the proper "groove" when the motion is very new. Your knees, technically, should track at the same angle that your toes do. Yes, powerlifters, you keep your legs wide and point your toes forward because this tightens your hips on the way down and up from the hole, but we're not talking about that. Figure 56, pg. 56, Starting Strength demonstrates this graphically and gives an excellent explanation.

Question - Should I lower the weight for my next squat workout? Today's workout was so hard I thought I was going to give birth.

Squats are INCREDIBLY difficult to perform. They aren't just physically challenging, they are mentally and emotionally challenging. If you perform 3 sets of 5 reps using a weight that is challenging, nearly EVERY REP will be difficult.

As long as you perform all 15 reps (3 sets, 5 reps apiece) with proper technique (i.e. full depth and proper balance), then you SHOULD strain like mad, and next workout, don't lower the weight. Add 10 lbs.

Wait...I thought this whole "3 sets of 5" was easy?!?!?!?! ;)

Question - I did squats for the first time and my legs are insanely sore, I can't even walk normally now, what should I do?

HAHAHAHAA!!!! Welcome to the world of the "newbie waddle", a.k.a. "Potty Flop". Go home and tell Mom that you're a man now. *cackle*

On a serious note, the "newbie waddle", which is the name given to the adjusted gait of a poor novice who trained his squats hard for the first time, is probably nothing more than DOMS of the thigh and glute area. It is very common, and is not dangerous (although it IS very uncomfortable)

the most dangerous thing about the "newbie waddle" is that you must exercise care while transporting yourself from point A to point B using the method of mobility known as "walking". You must also be careful when sitting down onto a toilet to do your business, else you learn what "Potty Flop" means.

Take special care if you are anywhere near steps. These can truly be hazardous to your health.

You probably didn't injure yourself. If you felt okay, just tired, after your workout, then the next morning, as the day wore on, you began to dread sitting down, and then standing up, then it's Potty Flop syndrome. This is especially insidious because it tends to be far worse "the day after the day after", even moreso than "the day after".

Don't skip your workout, whatever you do. Yes, your legs will hurt like hell, so don't worry about trying to set PRs, but do your 3 sets. On your day off, you might want to do some stationary bike riding or a stepmill/stairclimber to get some blood into the area to help with recovery and to ease the pain.

Question - How come my glutes get sore, but my thighs don't when I squat?

This effect is relatively common, and it can generally be attributed to one of a variety of things.

- 1) Weak glutes
- 2) Too much forward lean (inflexible hamstrings and/or a weak lower back are frequently the culprit here)
- 3) A stance that is too wide
- 4) Physical structure that simply is not conducive to squatting

Far too many people jump immediately to #4 and decide that they aren't "built for squatting". This is a convenient excuse which makes them feel better about the fact that they are, in reality, just cowardly twats who are afraid to squat. Does this mean that all people who don't squat are cowardly twats?

No, but probably most of them are. :D (I keed, I keed!)

As a newbie, you are not qualified to make the determination that #4 is appropriate, so stick with #1, #2, and #3 as the reasons. Stretch your hamstrings, close your stance a bit (just outside of shoulder width or slightly closer) and work them squats!

EDITOR'S NOTE - Calm down. Some people honestly can't squat. Some people have injuries that prevent them from squatting, so don't get all worked up about my statements. They were said in jest. If you honestly got mad at what I said, then don't worry. The corner grocery store probably will have a new stock of feminine wipes so you can get the sand out of your vagina.

The Bench Press

The Bench Press, Part 1

Question - How do I properly perform a bench press?

Quick, down and dirty. If you want more detail, go buy Starting Strength. This is not a bodybuilding bench press, nor a powerlifting bench press. This is a basic bench press.

Don't point to westside-barbell.com or Metal Militia's site and tell me that I am explaining the bench wrong. Don't point to one of Bob Chik's video posting/explanations and tell me that I am explaining the bench wrong. This is the standard bench press for a novice.

1) Lie flat on the bench, ensuring that you are evenly balanced from left to right. Falling off of one side of the bench in the middle of a press is embarrassing and decidedly non-anabolic.

2) Your feet need to stay on the floor at all times, and not move. If you need to get blocks or use plates on either side of the bench so your legs can reach, then do so. Don't lift your feet in the air or rest them on the bench. Your knees should be bent at approx. 90 degrees, and your feet should be on either side of the bench, with your legs spread at approximately 30 degrees to either side. An extra wide stance will generally be uncomfortable, an extremely close stance will not allow for proper stability and can encourage the lifting of the butt off the bench, which is a no-no. Find a comfortable stance and foot width, and maintain it throughout the motion.

3) Your glutes should stay in contact with the bench at all times, and should be contracted during all repetitions to help maintain a stable base.

4) Tuck your shoulder blades underneath your body and pinch them together and down. This will elevate the ribcage and stabilize the shoulder girdle. Maintain this state of tightness in your upper back/traps during all repetitions. This will also create a natural arch in the lower back, and will create a stable platform out of your upper back muscles for you to press from. This is called "shoulder joint retraction" and will make your rotator cuff very happy when benching.

5) Without protracting your shoulders (allowing them to roll forward/upward and lose tightness), reach up with each hand and grasp it equidistant from the center of the bar. Use the outer "smooth ring" as a reference point. You should use a hand spacing that places your pinkies within an inch or 2 of the smooth ring. Wrap your thumbs around the bar and allow the bar to rest along the heel of the hand, rather than up near the knuckles (which will cause unnecessary stress to the wrists)

6) Unrack the bar and move it so that the bar is directly over your lower chest area. Do not unrack the bar and immediately lower it to your chest from the rack in a diagonal line.

7) From a stopped position with the bar directly above your lower chest area, take a very deep breath, maintain tightness in the upper back and "pull" the bar to your chest in a controlled fashion. Your elbows should not flare or tuck excessively. Ideally, your upper arm bones (the humerus) will form an angle that is approximately 40-60 degrees from your torso. If your elbows flare out wide to the sides (~90 degree angle) then you hit your pecs incredibly hard at the risk of your rotator cuff's health. If your elbows tuck into your body (20-30 degree angle) then you will place too much emphasis on your triceps and delts, and not enough on your pecs.

8) Touch the bar to your shirt, not to your chest - if you visualize this and then try to perform it, this will pretty much guarantee that you don't bounce off your chest.

9) Press steadily and evenly to complete lockout without hyperextending your elbows or protracting (lifting) your shoulders from the bench (i.e. your upper back/traps should stay tight even at the top).

10) Lather, rinse, repeat

11) On the final repetition of the set, do NOT press directly toward the rack. The last rep should look identical to the first. Once you lockout the final repetition directly above your lower chest, then allow the bar to fall back toward the rack.

Bench press videos - good examples

Excellent description and video

Mendy pauses and nails 875

unknown guy cranks 405x12

675x1 raw Bench Press @ 15 seconds

Bench Press videos - very bad examples

The hip-hop bench press

The bounce press - note the guy was wearing a large bulletproof plate in the front of his shirt

Tank Abbott bounces 600 lbs off his chest...that's gonna leave a mark

Bench Press assistance videos

Ronnie Coleman reps 200lb Dumbbells

close grip bench press (CGBP)

Question - Can I do bench presses without having my thumbs wrapped around the bar, i.e. a "false" or "thumbless" grip?

Absolutely. In fact, if you decide to use a thumbless grip, I wholeheartedly recommend you do like this guy did and videotape it.

That way, when the Yearly Darwin Awards candidates come out, you can have video evidence of your stupidity to accompany your nomination.

The thumbless grip is used by people who have issues with their wrists. This can be obviated by simply resting the bar along the heel of your hands and wrapping your thumb properly around the bar, rather than holding the bar up near the knuckles, which will cause the wrist to bend backward uncomfortably.

Question - Can I do DB presses instead of barbell presses?

DB presses are outstanding. Many physique competitors, as well as strongmen, prefer the DB variation to the barbell variation. Interestingly enough, Mark Rippetoe himself feels that the DB may ultimately be a better alternative.

Originally Posted by Mark Rippetoe, pg. 68, Starting Strength:

...the dumbbell version of the exercise...is probably a better exercises for most purposes other than powerlifting competition.

There are a few reasons why the barbell version is the preferred "initiation" to the supine press (as the bench press used to be called). The primary one is simply that it is more appropriate to start with the technically easier exercise.

The learning curve for the barbell is much smoother than for DBs. Picture a complete novice trying to do a bench press. The bar wobbles everywhere, it is lowered at a variable rate of speed, it is pressed crooked, the left side flops forward, the right side flops backward, etc. Very few things are as humorous as watching a complete newb try to perform a bench press.

Now...add the aspect of unilateral balance and symmetry to the equation, both of which are required for dumbbell use...both of which are completely lacking in the untrained athlete-to-be. Since the majority of people are either right OR left-hand dominant, they will not have unilateral balance and symmetry. As a result, trying to teach a novice to do the DB press is a train wreck in the making.

You could possibly spend weeks just trying to get the trainee to learn how to balance the DBs. Those precious few weeks are going to be when the trainee is most adept at adding muscle and strength. Better to spend it with weight progression, rather than spending it trying to iron out balance and symmetry issues.

First learn walk, then learn run.

A good analogy exists when one compares barbells and DBs to automatic and manual transmissions.

Learning to drive a stick shift will undeniably make you a better driver. You'll learn more about driving, cornering, slowing and accelerating, etc using a stick than you will while driving an automatic.

However, the pain, aggravation, and lost time from trying to teach a 15-year old how to drive WHILE teaching him how to use a stick is probably going to be similar to the amount of pain and aggravation (and lost time) from trying to teach that same 15-year old to bench with a pair of DBs before they've even managed to perform a barbell press correctly. The trainee will definitely want to incorporate DBs into their routine, and eventually may end up with a routine that is predominantly DBs. Not only will they probably not suffer, they could possibly flourish. That, however, is better left to the more experienced trainee rather than the novice.

So yeah. I said all of that so that I could say this:

Don't use DBs in this program. Their use is wholeheartedly and enthusiastically endorsed by Mark Rippetoe and me (and any experienced strength athlete who has used them). However, their use is not warranted on this program.
ise Substitution Questions

The Bench Press, Part 2

Question - Should I do inclines instead of flat bench? I don't want to overdevelop my lower pecs or injure my shoulder

The overdevelopment of the lower pectoral and the possibly for shoulder injury are not 2 things that a novice need concern himself with as long as their technique is proper.

Your lower pecs aren't presently overdeveloped when compared to your upper pecs. You don't have either upper or lower pecs, so neither could possibly be overdeveloped relative to the other. Both, however, are definitely UNDERDEVELOPED. With the tools at your disposal, the flat barbell bench press is the preferred introductory exercise for upper body chest pressing strength when compared to the incline press. The incline press is an outstanding exercise, and its use is encouraged as training and conditioning progresses, but the potential pectoral and strength development of the flat barbell bench press is simply higher than the incline press, and as such, use of the flat press should be thoroughly explored before making the decision to refocus your supine pressing efforts elsewhere.

As for the shoulder injury issue, the vast vast vast majority of pectoral tears occur in one of the following scenarios

- 1) The injured party uses steroids, and has developed his strength faster than his connective tissues can safely support.
- 2) The injured party uses weights that are far too heavy for him, and he uses them far too often.
- 3) The injured party uses poor technique, frequently bouncing the weight off his chest
- 4) The injured party has poorly developed upper back musculature, which makes all supine pressing a relatively precarious event.

Assuming you do what you're supposed to do in this program, it will be years before you would ever need to even worry about a potential pectoral or shoulder injury arising from bench pressing.

Question - Can I do hammer strength or machine or smith rack bench presses?

No.

Machines of any sort are not used in this program. The basic fundamentals of balance are not learned on machines, the overall neural response is lesser, and the muscular stimulation is ultimately less.

More advanced trainees can and probably should incorporate useful machines into their training for various reasons. Machines have no place in the training of a novice, however.

If you've already been defeated by the barbells, then don't bother with this program. If you want to use machines as a novice, then go get a membership at Curves or Bally's and do whatever the trainer there tells you to do.

Question - Should I pause while benching?

Pausing at the chest during a bench press is the primary technique adjustment of the powerlifter. In order to get "3 whites", the powerlifter must lower the bar to the chest and hold it there briefly until the official signals him to press. For a powerlifter, it is a necessity to pause their bench press during a contest.

During training, there are advantages and disadvantages to pausing (or not pausing). For now, those advantages and disadvantages are irrelevant. Lower the bar to your lower pectoral region, and "touch your shirt" without touching your chest. In other words, touch very lightly without bouncing. Don't worry about pausing. That is beyond the scope of this discussion.

Question - What are the most common errors in benching, and why do they occur?

1) Hip hop bench press - see the video of the schmuck above. This occurs because you shorten the ROM by several inches when you pop your hips off the bench, and also allows for hip drive to actually assist. You won't see too many people doing a "hip hop" without doing a bounce off their chest.

This results in the joyously humorous movement known as the "Hip Hop Bounce press". Don't correct people that do this. You simply can't fix "retarded".

2) Bouncing - This occurs because people want to be able to use stretch reflex as well as the flexibility and rebound properties of the sternum and ribcage to help get the bar up. The alternative, "using their pectorals, delts and lats", just obviously isn't their preferred method.

3) Lifting one leg while benching - this usually occurs in the novice who has asymmetrical strength/coordination/flexibility. The stronger side arm presses the bar too fast, and the bar tips toward the weaker side. In an attempt to "rebalance" themselves, they lift the opposite leg, which, of course, doesn't work.

4) Lowering the bar/pressing the bar unevenly - happens for the same reasons as the "lift one leg". One side will be stronger or more flexible, so the bar will typically be lowered farther on this side than the weak/tight side. While pressing, one side will shoot up and the other side (the weak side) gets stuck. This is a shoulder joint wreck waiting to happen. If you have issues with this, and you have been working on your barbell bench press technique for a few months, then IMMEDIATELY get rid of the bar and do 2 exercises: DB presses and dips. If you're crooked on these, you will be forced to correct the asymmetry.

5) Not tucking your shoulder blades properly - this leads to a whole host of problems:

** If one shoulder blade is tucked and the other isn't, then one shoulder joint is stable and the other is loose. Again, this is a shoulder-joint train wreck waiting to happen.

** If your shoulder blades aren't tucked, then your base will NOT be stable, and you will be pressing from a big pile of mush. Imagine standing on a row boat in a calm pond. If you are balanced properly on the rowboat (stable), you can jump straight up into the air without too much issue. Now imagine standing on the rowboat, but you are offbalance. One side is lower than the other side. Try and jump...you can't generate any type of pressure or force when you press off of an unstable base. Your shoulder blades are the same way. If they are loose, then they can wobble around, and you cannot press properly or with any power, not to mention the rotator cuff injuries you open yourself up to with this kind of unstable position.

Question - I have a sticking point in my bench press, how do I fix it?

In a normal person who is doing a standard grip bench press, the lifter will get usually stuck a few inches off of their chest. At the very lowest point in the lift, the lats and anterior delts are going to be strong relative to the pecs and triceps, which will be weaker at this point in the motion. As you press the bar from your chest, the pectorals begin to take over the motion, and eventually "hand it off" to the triceps.

People make the mistake of assuming that they can automatically determine the weak point just by knowing where in the motion the sticking point occurs. Professional powerlifters who use bench press shirts know that a poor lockout is caused by triceps that aren't strong enough (relative to the spring in the shirt and the strength in their pecs). However, in a non-assisted athlete, this determination can NOT be made without examining the technique across a full range of motion, as well as examining strength in the various muscle-specific strength benchmarks.

In other words, if someone tells you what your weak muscles are just by reading where in the bench press motion you get stuck, then they are full of shite. There is a lot more than meets the eye. Something can look like a pork chop, but smell and taste like chicken.

Regardless, your sticking point exists not because one muscle is weaker than another, but simply because you are untrained. Spend at least 4-6 months of steady, consistent pressing, both supine (Bench press) and overhead, and then we can worry about where your sticking point is.

The Deadlift

The Deadlift, Part 1

Question - How do I perform a deadlift properly?

The short version:

"Grip it and rip it"

The long, detailed version

Mark Rippetoe's comments in the "comments" log for that article, specifically in the "shoulders behind the bar or scapula above the bar" arena:

Originally Posted by Mark Rippetoe

Here are 3 video clips that will be instructive. Note that when Bolton makes an attempt his shoulders stay in position, scapulas directly over the bar. When he misses, that position is not maintained well. All of these clips show fairly clearly, despite the variety of observation positions, that the shoulder blades are plumb to the bar as it comes off the floor, and that they stay that way until the bar is above the knee.

This is a critical difference in the clean and the deadlift: the shoulders stay out over the bar longer in a clean to facilitate the second pull, but the deadlift begins the rotation back lower on the thigh. This may be the source of the misperception of the shoulder position. But the ride up from the floor to the lower thigh is the same in both, and the videos clearly show this position. Even sumo deadlifts look the same off the floor, although it is harder to see the scapula position with the back in a more vertical position.

Another point is that if the deadlift is viewed from the side of the supine hand, the shoulder on that side is not as far forward due to the external rotation of the humerus, and the rest of the arm is further back because the elbow is pointed back instead of out. Try this yourself and see.

Bolton WR Deadlift

Bolton, #1 – good, #2 – missed

Bolton and Magnusson

Deadlift videos

a variety of styles of deadlifts

Conventional deadlifts

Konstantins Konstantinovs 948lb (430kg) @ 275

Note his rounded upper back and arched lower back. You need a very strong upper back to perform this correctly. Most people can't do it this way.

The first (and only) 1000+ lb deadlift, courtesy of Andy Bolton

2 of the best in the world

Benni Magnusson at his best in the gym (very fun video to watch)

Sumo deadlifts

sumo @ 1:52

extremely wide sumo stance

Romanian deadlifts

Excellent "technical" description and video

700x8 - Romanian Deadlift @ 6:59

Hola Bola does 365x9 - it states "SLDL", but as he readily admits, he does more of a hybrid, and it ends up looking like a RDL to me. Obviously it is working for him, and his technique is spot on for what i would consider to be a proper RDL

Stiff-leg deadlifts

Good description, so-so video

<http://www.exrx.net/WeightExercises/...gDeadlift.html>

Technique notes:

1) The 2 primary discriminators between this exercise and the RDL are lower back arch and knee straightness. If your knees are bent, then you are not performing a stiff-leg deadlift, you are performing an RDL.

2) Especially important here...note how, even when the bar is at its' low point, the LOWER BACK REMAINS ARCHED. This puts the hamstrings on an especially intense stretch, which causes them to bear the brunt of the load. Additionally, it takes stress of the lower back area and reduces the chance of you popping a vertebral disc, which is not particularly anabolic.

Luke does some heavy rack pulls - this is a good assistance exercise for the lower and upper back, although it is frequently recommended for upper back assistance (i.e. an alternative to rows for thickness)

The Deadlift, Part 2

How NOT to deadlift:

Hitching - notice how, as soon as he begins to pull the bar from the floor, his lower back rounds and his knees straighten out almost entirely. Once the bar gets to the knees, which straighten far too early, he rests the bar on his lower thighs, leans back and then shrugs it up along his thighs while doing mini-calf raises...that is not good. In addition to being improper form (kinda like bouncing the bar off your chest in a bench press), it can

also predispose one to injury. The rounding of the lower back is the biggest safety issue here.

Yes, that is the infamous Diesel Weasel. He can pull 405 for perfect repetitions, but he persists in performing them with weight above and beyond what he can properly perform. He hasn't gotten injured...yet. But he's young, and he will learn the hard way, unfortunately. Commendable effort and intensity, questionable intelligence and logic.

Question - Do I need to deweight between reps of a deadlift?

Yes. What you do as a physique athlete in future years is entirely up to you, but in order to properly learn and reinforce proper technique, you **MUST** begin all deadlifts from...a deadlift position, bar on the floor, motionless.

Watch someone perform a set of 8 "touch-n-go" reps. Specifically, look at their body positioning at the beginning of the first rep, relative to the rest of the repetitions in the set. Notice how the first rep looks very dissimilar to the 2nd rep, as well as all subsequent reps? You only perform 1 proper rep this way, and 7 marginal reps. This is bad news for a novice because the motor skills learned during that 1 proper rep will get overwhelmed by the improper performance during the other 7 reps.

This won't happen in a set of 5 on the basic deadlift when you deweight between reps, unless you are pulling a load that is beyond your capabilities and you fatigue prematurely.

By deweighting, you also (intelligently) limit the amount of weight you can use, because the stretch reflex and the bouncing of the weights off the floor will not occur. This will save your lower back from potential injury.

Pull from the floor, every single set, every single repetition. Once you gain more experience, do as you wish.

Question - Should I do sumo deadlifts, conventional deadlifts, romanian deadlifts (RDL) or stiff-legged deadlifts (SLDL)?

The sumo deadlift, RDL and SLDL are fantastic assistance exercises for the hamstrings, glutes, and lower back, to be used by intermediate-and-beyond lifters, but the conventional deadlift is the preferred variation for this program and for general strength building.

Question - I am having problems with my grip during deadlifts, what should I do? Should I use straps?

- 1) Chalk - get some now. Well, what are you waiting for? NOW!
- 2) Use a double-overhand grip during ALL ramping sets, then switch to alternate (over/under) on your heavier sets. This will help develop your grip

3) Did you get the chalk yet? Why the hell not?

Straps can be useful, but the grip builds so insanely fast, there is no reason for a novice not to simply develop their grip. Your forearms will thank you as well.

taps fingertips on the table

Did you get your chalk ordered yet?

Question - Should I use an alternating mixed grip or a double overhand or underhand grip during deadlifts?

To promote a stronger grip, perform as many of your sets as possible with a double overhand grip using chalk. Once you get to the heavier sets, you will probably need to use a mixed grip because you will not be able to pull effectively from the floor with a conventional grip.

Never use a double underhand grip during deadlifts. This is asking for trouble, as well as a torn biceps tendon.

Question - My traps are growing unevenly from using a mixed grip. What can I do to fix my trap development?

Before I address this, I'm going to state that I think this is, for the most part, a non-issue. However, I'll entertain the several individuals who honestly think this is a problem worth addressing.

What to do?

- 1) Do all warmup and ramping sets with a double overhand grip. This will help stress both traps equally, as well as help develop your grip
- 2) Switch your over/under hands every rep when you reset your grip. i.e. left over/right under for rep 1, left under/right over for rep 2.
- 3) Another option for someone who is a bit more advanced is to do shrugs with the exact opposite grip you are using now for deadlifts, right after you're done with your deadlifts. Take total workload into account, i.e. weight lifted on deadlift total = weight lifting on shrugs with opposite grip. Include your warmups in total weight.

Please, if you haven't ever thought of this or noticed that your traps are developing unevenly, then don't start agonizing over this (non-)issue.

Question - Should I use the 35s or 25s for deadlifts, so I can get a greater range of motion (ROM)?

No. Use the 45s. Doing what amounts to "platform deadlifts" is not necessary nor desirable at this stage in your training (novice/beginner). Learn to do the exercise with

the standard size plate on either side of the bar. You can incorporate platform deadlifts, or deadlifts with smaller plates, later on once you have some additional time under the bar.

Question - Can I do trap bar deadlifts instead?

Trap bar deadlifts are an outstanding exercise to use as an assistance motion for the basic deadlift and the squat. They can sometimes be used by someone who can't normally squat or deadlift due to some knee, shoulder or back problems. They are also great for farmer's walks and shrugs.

However, as you can probably guess from my responses elsewhere, the trap bar is not a lift that is used in this program. It is a great exercise for both strength and mass, but it is not an exercise that will be used in the beginner's program.

Question - What are the most common mistakes in the deadlift?

Look at the videos posted and read the excellent CrossFit article by Mark Rippetoe. You'll see what the problems are.

Question - My hands hurt and I'm getting really bad callouses. Can I use gloves?

Those who are purely bodybuilders will probably end up gravitating toward this, but before you go this route, consider a few things

- 1) The gloves make the bar larger in your hands, which makes it tougher to hold
- 2) Gloves stop some callouses, but won't stop all of them
- 3) Your grip strength will be very problematic, as you will almost always be forced to use straps when gloves are used.

The reason you are getting callouses, aside from potential lack of chalk (see above), is that you are holding the bar too high, up near the palm of your hand. The bar is going to pull downward until it gets into the "crotch" of your hand next to the knuckles. Chalk up and grip the bar down near the knuckle to start with, and you will save yourself a lot of pain and agony in the hands. With diligent chalk use, proper grip, and a little moisturizer in your hands when you wash, you can avoid the big nasty callouses and you won't have to worry about creating a run in your pantyhose.

Question - How close should the bar be to my shins while I perform the deadlift?

The bar should damn near scrape your shins all the way up and all the way down. I have hairy legs, and I know I'm not pulling properly unless I lose some hair on my shins.

In doing this, you will help ensure a few things

- 1) Your scapula stay above the bar during the initial pull to the knees

- 2) Your glutes, hams and lower back are in a better position of support
- 3) You are more easily able to maintain a lower back arch

The initial pull involves a lot of leg drive, as well as what could be referred to as "shoulder drive", where you use your hips to pull your shoulders back by performing hip extension. Wondering why your lats and traps get sore during deadlifts? it's during this phase, where your traps and lats have to pull the bar back into your body, when the bar wants to try to pull you forward.

Your hips keep your torso from leaning forward (which is bad), and your traps and lats keep your shoulder girdle pulled back and in place, which, in turn, keeps the bar close to your body which, in turn, helps make life easier on your hips and lower back.

If the bar drifts out away from your shins during the deadlift, you increase the distance between the "puller" (your hips) and the "pull-ee" (the bar). As a result, you are leaned over more (torso at < 45 degrees above parallel), and this is a far less powerful position to be in than the one where you are sitting back slightly (torso > 45 degrees above parallel)

Keep the bar close, and you will use more weight and you'll do so in a safer manner. Keep the bar farther away from your body, and you will use LESS weight, but it'll be MORE dangerous.

The choice seems simple enough to me. Lift more weight safely, or lift less weight and possibly end your lifting career.

The Power Clean

Question - How do I properly perform a power clean?

I will not even attempt to describe in words how to perform this exercise. If you don't have a coach, or if you don't already know how to do them, then don't trust my words. Get Starting Strength and read the chapter on the power clean.

Also, check these videos:

Click on the power clean link to the right

Great description and video

Note that in this video, you see the fellow jumping into the air. Although you want to try to do this, you will be using a weight that will render you unable to jump into the air. They show the jumping to demonstrate full explosiveness for this motion. Since homeboy is using a light weight, he goes airborne.

Question - What kind of clean should I do? Power clean, hang clean, or squat clean?

Both power cleans and hang cleans are outstanding exercises for bodybuilders, athletes, powerlifters and, of course, O-lifters alike. Hang cleans can be used to fill one (or more) of several different purposes

- 1) They can be "assistance" work for an O-lifter or football player
- 2) They can be outstanding trap/delt developers for a bodybuilder
- 3) They can develop excellent explosiveness for powerlifters, especially when done seated

The squat clean is merely a variation of both the power clean or the hang clean where you drop into a full squat to assist in racking the bar across the front of your shoulders.

For now, stick with the basic power cleans. Hang cleans are great for an intermediate-and-beyond trainee, and squat cleans are specific to Olympic lifters.

The Hang clean (video shows full squat hang clean variety)

The hanging clean is essentially a clean done from knee level instead of the floor. You stand up with the bar, bend your knees, keep your torso upright. You bend your knees and allow the bar to travel downward just to your knees, then you explosively straighten your legs, perform a power shrug/upright row, and flip your arms underneath the bar, just like in a regular clean.

From there, you can use a bit of leg drive and push-press the weight overhead. Then control the weight back down. At the intermediate level, the "HCP" (hanging clean and press) can be used as a double-substitute for the power clean and the standing overhead press. It makes for a serious conditioning workout as well as an incredible developer of the delt and trap areas.

The majority of cleans that you see Olympic lifters do are going to include the full squat component. For general athletics and muscle/strength building, don't bother with the squat component, as it takes a technically complex exercise and adds a few layers of complexity while reducing actual muscular involvement (i.e. you can do more weight with less strength because of the potential for very significant technique improvements)

Question - What is so tough about power cleans? Why are they the only exercise that Rippetoe thinks a coach is 100% necessary?

Power cleans are included in the program with a few "provisos", so to speak.

1) Mastery of the deadlift is necessary before the clean can even be considered. This doesn't mean "wow, he deadlifted 225", it means "wow, that guy's deadlifting technique is outstanding." The power clean cannot be performed properly without the base technique mastery of the deadlift.

2) A properly trained, critical eye will be present to teach, observe, and correct technique with the power clean.

3)

Starting Strength was written with the primary target audience being the knowledgeable athletic coach. The idea was to give the coach some tools for progression and training for his kids. However, the vast, vast majority of people in the US (and the world, for that matter) do not have access to a competent coach who can guide the trainee in their power clean technique. As a result, most trainees would be BETTER served by NOT doing the clean, rather than do the clean, but do it wrong, which will require de-training and re-training, a much more time-consuming process than simply the initial training of a lift. If you know how to do the clean, or if you have a knowledgeable eye to help you out with your technique, then by all means, include it! The explosive strength and acceleration it develops is a critical motor skill for athletics, and will be incredibly helpful in training many of the other lifts for the aspiring bodybuilder. However, if you don't have the ability to perform it under the tutelage of someone knowledgeable, you are best served finding a different exercise as a substitute.

3) In the book Practical Programming, Mark Rippetoe recommends that in place of the clean, the pullup and/or chinup be used until a solid base of conditioning has occurred and overall strength has been developed. Once the trainee has progressed to the point where he requires a time of "backoff/reset/deload" (details discussed in Section III - Programming), then adjustments can be made to the training, and the power clean can be introduced at this time.

The original target audience of Starting Strength was the athletic coach, and it was assumed that the coach knew how to give the proper instruction in the clean. What is now known is that the target audience has somewhat morphed into the basic kid who wants to get big and strong, and is unable to properly piece together the technique necessary to perform the power clean safely and effectively.

Additionally, the power clean REQUIRES that the barbell be dropped rather than lowered slowly during the eccentric phase. Most gyms don't have bumper plates, and they frown on your dropping iron weights to the deck, even with padding on the floor. Mom certainly doesn't want little Jimmy dropping his weights onto the floor in the basement.

As such, the clean, though the preferred exercise, will probably not be practical or safe for most trainees. The row fills the niche vacated by the clean in this program.

Question - I want to be a bodybuilder, not an Olympic lifter, why should I do cleans?

For a variety of reasons

- 1) Incredible traps
- 2) Great explosiveness which helps in deadlifts and squats
- 3) Grip and forearm development

- 4) Deltoid development
- 5) Technique improvement for initial pull from floor on deadlifts
- 6) Variety

Question - Should I do cleans or rows?

Depends on your goals. The majority of football players, track/field athletes and obviously olympic lifters will want to do power cleans rather than rows. That being said, bent rows are an excellent exercise no matter what your specific athletic goals are.

The bottom line:

If you have a competent coach, take advantage of the coach and learn to do power cleans. Even if you decide to scrap these in favor of rows later on in your athletic/ training "career", you'll at least have the opportunity to learn how to do them now so that if you choose to bring them back into your program later on, you have a solid technique knowledge base.

If you don't have a coach and you don't know how to do cleans, then don't even try. Learn to do the rows instead.

The Press

Question - How do I properly perform the press?

First, go here and watch the video. Take note of the following things:

- 1) He maintains an "elevated" chest position throughout the exercise.
- 2) Neither his upper nor his lower back round during execution. They stay tight and supportive throughout. The entire body is a direct part of the kinetic exercise chain, and as such, he maintains his entire body in proper alignment and proper tightness throughout the exercise. Much like the "tight upper back and shoulders" through which you push the bar in a bench or squat, the body serves as the "strong base" from which you press.
- 3) He leans **ONLY HIS HEAD** back, and just slightly, until the bar clears his head, then he presses upward and allows his head to come forward so that the bar is directly overhead
- 4) There is **NO LEANING BACK WHATSOEVER**. This is not a standing incline press, this is the standing barbell press with no backward lean.
- 5) Note that at the top, with arms extended, it almost seems as though he has pressed it slightly behind himself? That is because the bar should, at the top, be aligned with the

spine. Guess where on the body the spine points? it points straight up through the BACK of the head.

Grip should be close, just outside of shoulder width. Elbows should stay underneath the hands throughout the exercise. Again, DO NOT LEAN BACKWARD.

If you have a weak set of abs or a weak set of spinal erectors, you will find out rapidly during the execution of this exercise.

Question - Can I use DBs instead? Can i do these seated? Can I use a smith rack or a Hammer strength machine? Can I do push-presses instead? Can I do these behind-the-neck (BTN) instead?

The answer is going to be "no" to all of the above...however:

1) DBs are an outstanding tool to use, as are seated presses, push presses and BTN presses. Refer to the section on the bench press for the reasons behind not using DBs.

2) Seated presses are an outstanding exercise to develop specific deltoid musculature, but when starting off, the extra added benefit of balance, proprioception, core stabilization and CNS stimulation is pretty tough to beat with the standing press. Use the seated press "later on down the line", but for now, stick with the standing version. You will benefit immensely for the reasons stated above.

3) Push presses are an outstanding exercise which will develop power and strength throughout the deltoid/trapezius/upper back complex. Unfortunately, because it potentially involves a large degree of hip and leg drive, large weights can be used, possibly more than the novice really has any business using at this stage in his training. As such, it will not be used until the trainee advances more. In fact, in Practical Programming, Rip demonstrates the "Volume-Recovery-Intensity" method of training using the push-press and the basic press as his template. He considers this to be an "intermediate" assistance exercise.

4) Smith/hammers....do you really have to ask? Use them later. Stick to the free weights and the barbells for now. Move onward to machines and such once you have developed a solid base of strength and training competency using the free weight barbell versions

5) BTN - The BTN is an absolutely fantastic development tool for the entire delt/trap/upper back complex. Ted Arcidi, among many others, is well-known for his incredible BTN pressing ability. It requires a good degree of flexibility in the pectoral/shoulder girdle in order to perform safely. Many people will lack this flexibility naturally, and unless a seasoned coach is there to observe technique, the trainee could be setting himself up for serious shoulder problems if he does this exercise wrong. As such, it is not recommended this exercise be used...yet. :)

Question - I don't like doing overhead presses, can I do DB front raises instead?

No. DB front raises serve 2 purposes.

- 1) To allow powerlifters to get some additional anterior delt work without having to do MORE heavy presses
- 2) To allow physique athletes to "touch up" an area which is rarely a problem spot for anyone.

DB front raises are "nice", but like DB flies, they aren't going to be necessary unless you are training for a physique contest or simply want to get some front delt work without stressing your shoulder joint.

The Row

The Row, Part 1

Question - How do I properly perform the barbell row?

YOU WILL MAINTAIN THE NATURAL LUMBAR ARCH THROUGHOUT THIS EXERCISE. At NO TIME will your lower back round for ANY reason.

Here it is, step-by-step.

- 1) You maintain your lumbar arch, bend your knees, and lean over at the hips, not the lower back, so that you can grasp the bar. When you lean over, you MAINTAIN YOUR NATURAL LUMBAR (lower back) ARCH/CURVATURE. Yes, this means your bootie sticks up in the air. Deal with it, and don't do these if you go to prison.
- 2) You reach to the bar and grasp it with a "medium-wide grip". Don't belabor this point. Your hands should be outside of shoulder width. Exactly how far is up to you, I personally extend my thumbs to the smooth, and use that for grip width. Reaching for the bar without allowing your lower back to round will require your shoulder blades to rotate forward, which will round the shoulders forward (protraction). This is natural and normal. At this point, ENSURE YOUR LOWER BACK/LUMBAR ARCH IS STILL BEING MAINTAINED.
- 3) Suck in a deep breath of air, check to ensure your abs and lower back are tight, which maintains the natural lumbar arch, and EXPLOSIVELY arch your SHOULDER BLADES backward and upward while yanking your elbows up behind your body. Of course, your lumbar arch is maintained throughout, and there is NO motion at the hips. that is, hip extension (the motion you would use to stand upward from this position) does NOT occur during the rep.
- 4) The bar should hit in the upper abdomen and you should try to pull it through your body, while squeezing your shoulder blades together hard and arching your lats. The

"arched lats" affect can be seen in runway models or swimsuit models who arch the lats. This brings the shoulders back (retraction) and it shoves their boobies up in the air (elevates the chest). This is the same action that should occur when you are readying yourself to perform the bench press, but of course, you'll be supine on a bench rather than bent over.

5) Control the weight as it returns to the ground while maintaining your lumbar arch. At this time, learn to control the weight using your lats and upper/midback muscles as much as possible, and your elbow flexors (biceps, brachialis, brachioradialis) as little as possible.

Lather, rinse, repeat.

Note - You must "deload" between *every* repetition. That is, you actually put the bar down and release (or simply relax) your grip so that you remove any type of static tension in the muscles at that time. **DO THIS!** It is almost counter-intuitive, and I resisted doing this for quite some time. After all, I have lifted 20 years and never deloaded between reps, why should I start now? It will be annoying at first, because you can't use as much weight.

Of course, you can't use as much weight when you do a full squat, nor can you use as much weight when you **DON'T** bounce the bar off your chest in a bench press. More weight isn't better if the technique isn't proper.

If you are able to row more than 135 with this exercise and you have longer arms, you may need to use 35s so that you can get a better range of motion while pulling from more of a stretch position. Stand on a low, wide box if need be. Do not, however, allow the lower back to round, and do not squat down to reach the bar.

Use less weight on this exercise than on normal 45 degree rows. Reduction in weight, increase in lat stimulation.

Question - Are there any videos of these, I don't quite get the idea

Okay, here are a few videos with some discussion of the "do's" and "don't's". I don't use these videos to mock or poke fun, so please don't take it as such.

What Stump is doing here is a conventional barbell row with a deweighting in between reps. This is **NOT** a bad thing, mind you, it simply isn't how you do a pendlay row. The video does provide a good list of common mistakes. Many people think that the Pendlay row is a conventional row done with a deweighting between reps.

Note a few things while watching this video:

1) Improper starting position - hips too low, shoulders too high. Your upper body should be nearly parallel.

- 2) Hip extension to get bar off floor, followed by hip extension to accelerate bar - note that he "stands up" while his arms are still straight, and doesn't begin rowing until his torso is at a 45 degree angle.
- 3) Knee flexion and extension - your quads shouldn't get a workout
- 4) Dipping and forward motion of the hips just as bar is about to contact body
- 5) Touching bar too low on the body - don't touch the navel area (this is easy), touch the upper abdomen

This video is a much better example. He uses proper starting position and no leg or hip drive to get the bar from the floor. However, this lifter's traps begin to overpower his lats at the top point, and he uses the "forward hip dip" as the bar is about to touch his midsection. By rolling your hips forward, you take stress off the lats and place it squarely onto the traps, which are always a lot stronger.

This is probably the best example yet. A very small issue with keeping his head down, which will not allow for maximum lat arch at the top. However, note the almost perfectly parallel upper body positioning throughout the motion. Do everything like Vike did it, except find a point a few feet in front of you to focus your eyes on, which forces you to keep your head looking slightly upward, relative to your positioning (i.e. look at the 2nd rung in the power rack or whatever). By doing this, you will keep your head up throughout, and you will be able to finish with a strong lat arch.

(Thanks to Vike, Lencho and Stump for their videos)

Question - Do I have to deweight between repetitions of the row? What about continuous tension?

Continuous tension is a term widely used in bodybuilding circles. It is associated with hypertrophy and muscle mass accumulation. It is, however, only one part of the equation.

The purpose of deweighting (i.e. allowing the barbell to rest the entirety of its weight on the ground for a brief moment between repetitions, as in the deadlift) is to develop the ability to produce force rapidly and explosively in the upper back muscles. Remember, this is an exercise which isn't just a "lighter pull from the floor", like the power clean is, it is an exercise to develop explosiveness.

Continuous tension is a fine concept, and a barbell row is going to be an incredibly effective strength and mass producer with or without the deweight. The deweight is a better teaching tool for explosiveness, and also makes the somewhat vague technique of the basic barbell row a bit more concrete. It also significantly reduces the amount of stress and strain on the somewhat vulnerable lower back. With training frequency being what it is, and since the rows follow squats in this program, giving the lower back a rest can be rather desirable.

The Row, Part 2

Question - I use a lot less weight on these than on normal barbell rows. I'd rather do them with more weight

Far be it from me to stand in the way of a fellow and his ego. You want to use more weight, then go for it. I won't stop you.

While you're at it, go ahead, load up an extra 45 on either side of the bar, and do partial squats. Stick an extra couple of 10s on either side and bounce the bar off your chest while benching.

Here's one that should hit home...stick 45s and some change on the end of a barbell and see how well you do the reverse-grip power clean a.k.a. "the power curl"

Anyway, i'm being facetious here. You use less weight on these than with regular rows because the perfectly parallel position keeps your traps out of the motion. Your traps are an enormously powerful muscle, and they have a tendency to overwhelm the lats in a variety of exercises. You will see some people with seemingly perfect technique on bent rows doing some pretty tremendous weights, yet their lats are "fair", whereas their traps are bulging.

If this describes you, then stay away from the regular "45 degree" barbell rows and especially from the yates rows, as they tend to incorporate a lot of trapezius action if you're not careful. It took me FOREVER to learn how to do these suckers properly. Yes, my traps were always big. Yes, my lats sucked for years. :)

Seriously though, no one is telling you to do bent rows this way FOREVER. You will, however, receive payback for your diligence in this exercise by developing a very powerful set of lats.

Why do you recommend rows in place of power cleans?

Rows are NOT an "official Rippetoe Starting Strength" exercise, but it found its way onto the "adjusted writeup" that I did. The power clean is the ideal pull of choice to alternate with the deadlift in this program. However, I recommended the row in place of the power clean for a vareity of reasons

- 1) It's an easier exercise to perform
- 2) It is a FAR easier exercise to "teach" online - it is a controlled exercise, so the whole "mind/muscle connection" thing can be emphasized a bit better than with a fast lift like the clean.
- 3) Proper rowing is more easily duplicated by watching videos, such as those found on youtube, whereas watching videos of a power clean won't yield the same positive

results because the exercise is, when performed properly, too rapid to really observe for an untrained eye

4) It's easier to sell barbell rows to an aspiring 16-year old bodybuilder by showing pics of Dorian Yates and Ronnie Coleman, who are both proponents of the barbell row. Most of the best guys in the world at the power clean are probably not built the way the "biceps peak"-seeking teenager wants to be built.

5) A final advantage of including rows in this writeup is because it is more closely associated with the highly coveted and elusive "hypertrophy response" which most young guys are interested in.

Pulling a barbell from the floor is an important skill to develop in the weight room from the start, and although the power clean is ideal for this (Especially if you have a football strength coach who hounds you about your power clean), the row is an "easier sell" to the average kid who wants to be big and strong and is easier to teach online and via text.

The row can fill the same niche as the clean because the row can be done in an explosive manner, just like the power clean. It can be performed as a pull from the floor that is a lighter alternative than the deadlift, just like the power clean. It develops the upper/midback musculature, shoulder girdle, and traps, as well as the posterior chain, just like the power clean. It is also a "strength benchmark", just like the power clean.

The original program in Starting Strength does not contain any references to doing any type of rows, although it is listed as a useful and desirable "semi-core" exercise in both Practical Programming and the updated/next-edition version of Starting Strength (due sometime in early-mid 2007). Direct discussion with Mr. Rippetoe reveals that he finds the bent row a suitable substitute for the power clean if the clean simply cannot be performed safely/properly.

I don't necessarily recommend cleans INSTEAD of rows because "rows are always better for everyone." I present them as an alternative. Choose whichever you like, whichever suits your goals. Strength athletes, such as football players, will probably be better served by doing power cleans. In fact, I almost guarantee your coach wants you to do power cleans. Recreational lifters and bodybuilders will almost definitely prefer the barbell row because it has a more direct carryover to their probable physique goals. In the end, learn how to do both properly, and find a place for both in your program as you advance in your training experience and conditioning, and you will be better off than if you had neglected one or the other.

Can I do DB rows, T-Bar rows, 45-degree rows or Yates rows instead of Pendlay rows?

All of these exercises are outstanding free weight exercises and can be used as benchmark strength exercises for many trainees. They develop overall body strength, especially in the posterior chain and "pulling" muscles.

In this program, however, the bent row is more than just a "lat exercise", it replaces the power clean. As such, it must replicate the PURPOSE of the power clean. Muscular recruitment between the 2 exercises is somewhat similar (i.e. rows and cleans works the upper back, lats, rear delts, traps, and spinal erectors, as well as the grip and, to a certain extent, the elbow flexors). However, the explosiveness that the clean develops is very difficult to replicate with most versions of barbell rows.

The bent barbell row, when performed with a deweight between repetitions, allows for the development of explosiveness and helps develop the trainee's ability to produce force rapidly. As such, it is the preferred barbell exercise for this program.

It isn't necessarily "better" than any of the other barbell/DB/T-Bar row exercises. It is, however, a more suitable exercise for this program. Deweighting between reps is a very useful tool in your barbell training arsenal. Like any tool, you use it wisely and in the right situation.

Question - Can I do cable rows or Hammer Strength rows instead?

No.

These are popular exercises for physique athletes, as well as powerlifters who wish to train their upper back while resting their lower backs. These machines have their uses, but they do not belong in the program of a novice barbell trainee. Take these up in a few months after you've spent time mastering the bent row

Accessory Exercises

Abdominals (teh 6-pakc)

Question - What ab exercises should I do, and how should I do them?

Volumes have been written on this subject, so I will briefly explain a few good ab exercises

1) NS Situps - (NS = Needsize, the creator of this exercise) - lie on a slant board, start at the up position, lower yourself until your upper body is parallel to the ground, hold for 5 seconds, return to the top. Add weight to your chest (i.e. hold a plate or DB or a sandbag across your chest)

2) Leg raises from a chinup bar

3) Leg raises on a slantboard

4) Ab pulldowns

A few points:

- Start off easy so that your abs aren't trashed for days.
- Try to keep reps lower. Over 15 is unnecessary in most cases, add weight to increase resistance. Strong abs produced by weight are going to be better able to stabilize you during a squat or pull than skinny abs that have been eroded by 1908432-rep situp workouts
- Do these AFTER weight training, not before, and not on your off-days. Sore abs can wreck your back if you aren't careful when doing squats and pulls, so just do the ab work right after your workout.

Question - I have heard of Standing Ab Pulldowns. What are these and how are these done? Should I do these instead?

Standing ab pulldowns are a very good exercise that is frequently performed by powerlifters. Because the squat and deadlift (2 primary powerlifting exercises) are taxing on the midsection, and both require you to stand up, the train of thought is that doing ab work in a standing position will have better carryover.

Here and here are a few pics of the standing ab pulldown. You attach a towel or a strap or whatever to a lat pulldown machine, face away from the machine, hold the straps on either side of your head, and use your abs to pull you down.

If you prefer those over situps or leg raises, then go for it! Be smart, start out easy, and gradually increase volume and/or intensity. Keep reps per set relatively low again (no 30-rep marathon sets)

Question - Do I need to do ab work? I know several people who think doing squats, deadlifts and rows are good enough for abs.

If you think this is true for you, then go ahead and skip ab work. Most people, especially most novices, could do pretty well if they do a few sets of abs 3x per week. It certainly isn't going to kill you and generally will help 99% of most novices, who have flabby bellies, even if their midsection isn't large.

Remember, your midsection is responsible for keeping your spinal column tight and in proper alignment, along with the muscles of your lower back. If your lower back fatigues, whatever "slack" is created by the weakened lower back muscles will need to be taken up by your abs. As such, it is much better to have abs that are "too strong" than "not quite strong enough", because "not quite strong enough" may very well lead to a back injury, which is horribly un-anabolic, as well as painful and aggravating (and chronic)

Question - I want to cut up for the beach and get a 6-pack. Can I get a 6-pack from this program?

The "6-pack" is a result of 3 things

- 1) Muscular development of the abs
- 2) Low bodyfat
- 3) Enough muscle all over the body so that the skin is stretched thin enough across the abs to demonstrate them

Some people who are barbell novices may have abs, but usually they are involved in some type of strength/endurance sport, such as soccer, hockey, track, and especially martial arts and wrestling, etc. These individuals may be naturally muscular and lean, and probably have developed a good bit of muscle via their sport. As a result, they may not have significant muscle mass as compared to a bodybuilder, but they are still well developed compared to the untrained individual.

This program builds muscle mass. Diet and cardio are used to burn bodyfat. If your bodyfat is low, then you may very well find that the muscular development you get from this program is enough to help your abs show, especially if you eat a very clean, well-balanced (for muscle building) diet.

If you don't have abs now, and you are a chubby, NO weight training program will get you a 6-pack without dietary adjustments and cardio. As a newb to weight training, your best bet is simply to clean up your diet, maintain a strict food log, and monitor your calorie intake and morning post-take-a-dump bodyweight. Don't try to lose weight (unless you're pretty fat), try to maintain. This will allow your body to burn bodyfat for fuel while building muscle. This is ESPECIALLY effective for chubby teenagers and out-of-shape older guys who used to be athletic/lean and can use muscle memory to help them get back in shape.

Take 6 weeks and focus on eating a maintenance diet and developing your strength. Monitor your progress and THEN start tweeking.

Biceps (teh biceps)

Question - Why isn't there any direct arm work? I want my gunz!

There is direct arm work included in this program, but it is designed so that the inexperienced newb doesn't overdo his arm work.

Here is what typically happens with a novice weight trainee.

- 1) They suck at the "big exercises" because compounds like squats, deads, benches, presses and pulls are difficult when you first start out. You can't get the technique right,

you are wobbly and uneven, etc. As a result, you are unable to truly tax your torso or leg muscle groups.

2) They have TONS of leftover energy because the weight they used on the compounds doesn't really stress their muscles excessively, so when it comes time to train arms, they get overzealous and obliterate the arms with all their leftover zeal

3) Arm work is VERY easy to perform, both from a physical standpoint and from a mental standpoint. Curls are easy, squats are hard. The untrained, unconditioned novice is also undisciplined, and as a result, will put less effort into the big exercises and more into the arm exercises, because they are easy

4) Arms are, even for newbs, EXTREMELY easy to hit hard and "get that burn/pump". As a result, newbs end up w/ crippling DOMS (Delayed Onset Muscle Soreness) in their arms, and on the 2nd day following, they are unable to train their presses or pulls because their arms are complete jello.

5) Couple the above with the ridiculously intense "arm fascination" that the typical 14-year old has, and you have a recipe for disaster.

By placing the direct arm work approximately 3-4 weeks into the program, you are able to develop a base conditioning level so that once you DO add the arm work, your arms are already well conditioned, and the arm work becomes icing on the cake and doesn't interfere with your main workout exercises. This means significantly greater growth in their entire body, including their arms. In the end, very experienced people have developed this to maximize your growth all over, including your arms. Your arms will grow better if you don't overdo it at first.

Question - When and how do I add direct arm work?

See section III - Programming

Question - What are the best biceps exercises to incorporate into the program?

Don't get fancy here. Use BBs and DBs and try not to let your ego get in the way of things.

There are millions of articles in Flex and M&F about the various biceps exercises. Go pick one of the barbell or DB ones out and go for it.

Here are my fave's:

- 1) 1-arm Barbell curls (yes, one arm)
- 2) Alternating Hammer DB curls
- 3) Incline DB curls

Question - Should I use DBs, barbells or the curl bar for my biceps exercise?

Yes

Question - Are cheat curls good? Arnold used to do them.

Arnold also thought getting a pump in his muscle was like cumming. Take what Arnie said with a grain of salt. For now, avoid cheat curls. Use them later on once you have more experience, and you will know how and when to incorporate these.

Question - Will this program help me get 'teh bicept p3ak'? I wunt my gunz!

The original Starting Strength workout is a beginner's program. If you are a candidate for this program, then you have to understand that NO program can build your peak right now because you have no biceps. Build your biceps (Along with the rest of your body) and then start asking about your peak development. If your arms are under 17 or so inches, then you really shouldn't concern yourself with your "peak". Your peak is going to suck as long as your arms are spindly and weak.

Question - Why doesn't this program have concentration curls in it? Arnold did concentration curls

You aren't Arnold, and you don't need concentration curls yet. If you are a good candidate for this program, then worry less about concentration curls and more about putting some muscular bodyweight on. Skinny kids don't spend much time on concentration curls unless they want to look skinny the rest of their lives.

Nothing wrong with arm work OR concentration curls, but they have their place, and in the workout of an inexperienced trainee who isn't well conditioned, they are out of place.

Dips

Question - What kind of dips should I do? Triceps dips, chest dips, bench dips, etc?

Do them like this or this

If you prefer to keep your feet behind you like this, then go for it. It won't block out the sun and cause mass destruction, havoc, and/or genital herpes. This isn't something to obsess about, really.

Question - How wide should my grip be during dips?

Just slightly wider than your body. An excessively wide grip will wreck the shoulders, an excessively close grip will generally not allow for proper ROM (range of motion). The exercise should not feel uncomfortable in the shoulder joint or tendon area.

Question - How deep should I go?

This will be a function of shoulder joint and pectoral flexibility. Go as low as you can go without overly stressing the area. Not everyone is a Hola Bola-like freak, with the ability to go deep with heavy weight.

At least get your upper arms to parallel. If you can't do this due to flexibility, then you really need to work on your shoulder joint flexibility.

Question - Can I do close grip bench presses or hammer-grip DB presses instead of dips?

No, absolutely no, no doubt about it...NO.

Decline DB presses and close grip bench presses (CGBPs) work the individual muscles in a somewhat similar manner, but the overall difference in workload and the resultant stress on your CNS means that these exercises can NOT be substituted evenly.

Do NOT substitute ANY free weight (or machine) exercise for a bodyweight-type exercise, even if you normally add weight to yourself when doing chins/dips

Both DB presses and CGBP are OUTSTANDING exercises, and they are both in my present training regimen. You won't need them just yet, however. They are great additions to the intermediate's training program. Stick with the dippity-dips for now, however.

Question - I'm not strong enough to do dips/I don't have dip bars, what exercise can I use as a substitution?

Probably the best alternative is to do do pushups with a heavy backpack. Touch chest to ground/floor every repetition and control every rep. This will probably be your best bet, unless you are needing to do the pushups from your knees, in which case, you have your work cut out for you. :)

Back Extensions

Question - How do I work back extensions or hyperextensions into my training program?

For additional training of the posterior chain (i.e. the lower back, the glutes and the hamstrings), you can add back extensions, aka "hyperextensions", reverse hypers or GHR (glute ham raises). BE VERY CAREFUL WHEN ADDING THESE EXERCISES.

The lower back muscles (the spinal erectors) are NOTORIOUSLY slow to recover. As you add weight on the deadlift, your lower back will get worked more. As you add weight

on the squat, your lower back will get worked more. As you add weight on the row/clean, your lower back will get worked more. Since squats, rows, cleans and ESPECIALLY deadlifts work the crap out of your lower back, you will probably find that you won't need to do these at all.

If your lower back is tired the day after you squat and deadlift, do NOT add this work, it is unnecessary! If you do decide to add it, add 1 set to Workout A, and do only that one additional set for at least 2 weeks before gauging the necessity for a 2nd set. This is not "balls to the wall, all-out" type of training on these exercises. Do a set or 2 of 12-15 reps. It is more of a "pump set" which will allow the slight increase of workload and volume. It's not supposed to be exhausting, so don't make it so. You are doing this exercise right after heavy squats and deadlifts, so your lower back shouldn't need much additional work.

If all you have is a 45 degree or parallel back extension machine, then tread lightly and carefully.

Question - What are some other exercises I can do in place of back extensions for additional lumbar area work?

1) If you have access to a reverse hyperextension machine, then do a ton of reading at various Westside barbell training sites. You can use the reverse hyper to actually help rehabilitate and facilitate the recovery of your spinal erectors, but that is outside the scope of this discussion. This exercise is an outstanding replacement for the back extension.

2) If you have access to a proper Glute-Ham Raise, then you can fiddle with this apparatus until you get the hang of nailing your hamstrings hard. These, when done properly, only mildly stimulate the lower back area, but NAIL the hamstrings hard. You will have to gauge your own hamstring recovery in order to know if these are necessary. You can also do "ghetto" GHR, but these are DIFFICULT. Your hamstrings probably aren't strong enough yet.

I HIGHLY recommend the use of the GHR and/or the reverse hyper.

An additional exercise which might be considered for use by an intermediate athlete would be the pull-through.

This is one of the only cable exercises you'll ever see me recommend because there is no real free weight alternative. Grab an attached rope and face away from a low cable, squat down a bit and spread your legs, reach all the way through your legs (see the start position). Slowly pull your upper body back through your legs until you are in an upright position, like so

Question - Can I do SLDL or GMs instead of the back extensions?

This is an absolute no-no. Unless you are a mutant with a set of spinal erectors that recover insanely fast, you CANNOT do good mornings (GMs) or stiff leg deadlifts (SLDLs - or Romanian deadlifts - RDLs) in place of hyperextensions. GMs and RDLs/SLDLs are DEADLIFT REPLACEMENTS, not hyperextension replacements.

Read that one again....RDLs, SLDLs, and GMs are HEAVY CORE and CORE ASSISTANCE EXERCISES, not accessory work. They should be treated and trained as such.

The vast majority of trainees won't even need to do hyperextensions until at least the 2nd or 3rd month of training, many won't really need to do these for QUITE some time, and at that point, they should be moving heavy enough weights in the deadlift and squat that good mornings and SLDLs would be counterproductive to recovery if added in.

Even if you "just go light" on these exercises, they are not appropriate substitutions for hyperextensions. Hypers, reverse hypers, glute-ham raises (GHRs) are accessory exercises. They aren't needed and they absolutely MUST NOT get in the way of progress on the main lifts (squats, presses and pulls). GMs and/or SLDLs in addition to squats and deadlifts will most definitely get in the way of progress for the novice and most intermediates.

heck, there are tons of advanced athletes who can't do GMs and SLDLs after conventional heavy deadlifting without requiring close to a week to recover.

If you know for a fact that you can do GMs and/or SLDLs along with regular heavy deadlifting (up to twice weekly) and squatting 3x weekly, then One or more of the following is true

- 1) You are an advanced-elite athlete
- 2) You are a mutant
- 3) You are on steroids
- 4) You are Spytech (which goes hand-in-hand with #1 and #2 above)

Question - My lower back is tired. Do I have to do the back extensions?

Hell no. If your lower back is getting hit hard, stay the hell away from the hypers. Your back is obviously getting nailed nice and hard. ACCESSORY = unnecessary.

They are fluff. Do them if you need fluff in your life. If your lower back is getting nailed by the pulls and squats, then no fluff is needed.

Pullups/Chinups

Question - Should I do pullups or chinups?

Doesn't matter, really. Use whatever you're strongest at. The delineation between chinup and pullup is overemphasized in importance. Most newbs will be strongest with a grip that is parallel (i.e. hammer grip), with a hand spacing just closer than shoulder width.

Whatever you do, pick one and stick with it and add weight once you can hit 10/12ish reps in a set. Go hard on these, don't be afraid to use a little kick on your last rep, and have fun.

Question - How do I properly perform chinups and pullups?

The pullup can be performed with any of a variety of hand spacings, from wide to close, overhand grip (pronated, frequently called "pullups"), underhand grip (frequently called "chinups"), and if your shoulder girdle flexibility allows it, you can even do "BTNs" - Behind-the-Necks.

They are ALL incredibly beneficial. Differences in strength mean that people will be able to do these differently. You might only have the strength to do BTNs so that the bar gets to ear level. Others will be able to touch their upper shoulders. You might have the strength to do front pullups so that your upper chest touches the bar. Others can go all the way to their lower chests. Others might be lucky to clear the bar with their chin.

Don't sweat this. Start from a full hang, so that your shoulder blades are stretched, but do NOT straighten your arms, keep them bent slightly in the low position. Also, maintain some tension in your upper back so that in the low position, you aren't "dead hanging", which can put a lot of stress on your tendons and shoulder girdle. i.e. keep your shoulder girdle tight and your elbows bent slightly, but allow your scapulae to stretch downward.

In a smooth motion, pull yourself upward in a manner commensurate with your hand spacing. If you have a wide hand spacing, your elbows will travel out to the sides of your shoulders. If you have a close hand spacing, your elbows will pass in front of your body. At all times, try to think of "pulling your elbows down" rather than pulling your body upward. This tends to help people develop that elusive "mind-muscle connection", which tends to be very difficult for some people to develop for the posterior of their bodies, especially the lats.

Go as high as you can, then lower yourself under control. Again, think of allowing your elbows to go up, rather than thinking of your body as lowering.

Once you get a bit tired, the tendency will be to "kick" yourself up for another rep. Although it is preferable not to do this, as long as the kick isn't extreme, and you only do this for a single rep at the very end of a set, it isn't the end of the world.

YES, you're damn right. I just told you to do a cheat rep at the end of each set of your pullups. Save the flaming, you know damn well you do it too!

Anyway, here's a few videos of some dudes doing pullups and chinups.

Hola does hammer chins

Luke does wide grip hammer pullups

Extremist Pullup does wide grip overhand pullups

Lencho does BTN pullups

Some kid does close-hand chinups

Some other dude does medium-grip chinups

Question - Do I have to do chinups and pullups?

No.

The squats, pulls, and presses ARE the workout. If you want to do 3 exercises per day (Squats/bench/deadlift or squat/press/light pull) then do it! That is what the program is based around.

chinups, dips, arm work, back extension work...that's all accessory fluff (but good fluff!), so it is not necessary. The ONLY goal of this program is to get you to add weight to the squat, bench, deadlift, press and pull while using proper technique. If "it" gets in the way of the goal, then "it" needs to be removed.

If the accessory work helps you progress, then use it. If it doesn't help you progress, then ditch it. If you can't do it, then don't sweat it, it is not necessary at all. Dips and chinups are undeniably the "more necessary" of the accessory exercises, and they are quite beneficial to do, but they are not absolutely necessary for a novice.

Question - What kind of grip should I use on these?

Doesn't matter. Don't obsess over whether you should do "chinups" or "pullups" or "behind the necks" or "wide grip front" or "medium grip" blahblahblah

just pick a grip and get better at it in a progressive manner. No, chinups aren't cheating. No, chinups aren't all biceps (can you REALLY curl your entire bodyweight?) Do whichever hand space variation allows you to work hardest and get the most reps with.

Question - I'm not strong enough to do chinups or pullups. What should I do?

Rack chins are an outstanding way to get stronger at pullups, and they also make for a fantastic way for a bodybuilder type to learn how to hit their lats more directly with the various pullup grips.

Always strive to use full bodyweight, but rack chins can certainly be used if you are unable to do regular chinups. The primary suggestion is to add 2-5 reps per set, because they are easier. i.e. instead of doing about 8 reps per set, try to get 10-12 per set if you do them rack-style. Be very wary of the angle of pull. Don't allow this to turn into a swinging body row-up. Do these VERY VERY STRICTLY. There is no excuse for cheating on this exercise.

Question - I don't want to do pullups or rack chins, can I just do cable pulldowns instead?

No.

Other Questions

Question - Can I do both cleans and rows in the same program?

Both exercises are very effective, certainly both have their place in the routine of the beginner/novice trainee. If you have someone to coach your technique, or you are confident in your technique, you can employ both of them within the confines of the program.

Note - this is NOT endorsed by Mark Rippetoe. However, this is the exact workout template that Tad_T used, with resounding success.

Workout 1

Squats = 3 x 5

Bench = 3 x 5

Deadlift = 1 x 5

Dips = 3 sets

Pendlay rows = 3 x 5

Abs = 3 sets

Workout 2

Squats = 3 x 5

Overhead press = 3 x 5

Power clean = 3 x 5

Pullups = 3 sets

Abs = 3 sets

This is a slightly more advanced version, and is not for "novice consumption". Tad_T is/ was an experienced individual so he was able to incorporate this into his training plan successfully.

Question - Should I arch my back when doing squats, deadlifts, rows and power cleans? Or should I keep my back flat?

Normal spinal curvature of the lumbar spine IS an arch. It's a natural arch, it's the lumbar curvature, and it is arched, rather than "flat". A "flat back", if taken literally, is a back position which requires you to actually attempt to round your spine. "Flat back" is and always has been a misrepresentation of the normal positioning of the lumbar spinal area. When a strength coach says "keep your back flat", he really means "keep your back in its normal, naturally arched position"

So, to make it short and sweet, "normal spinal extension" equals "flat" equals "normal arch".

For further visual description of this, look at Figure 19 on page 119 of Starting Strength. In the 2nd and especially the 4th picture in Figure 19 (counted left to right) you can see the trainee's lumbar spine is in a natural arch. It isn't "flat", per se, like a straight line, but it is "appropriate", and in various circles is referred to as keeping a "flat" back or keeping your back "arched". As long as the back is not EXCESSIVELY arched backward, this is the proper lumbar positioning for deadlifts, squats, rows, cleans, and any other exercise which requires support of the lumbar spine.

Here and here are lateral views of the lumbar spine. You can see the natural curvature of the lumbar region demonstrates an obvious (though not exaggerated) "arch".

You use your abdominal muscles and your lumbar spinal muscles to maintain this arch. Although advanced and elite-level strength athletes do exercises with a rounded back for a specific purpose, there is NO REASON WHATSOEVER for a beginner to round his back on ANY exercise, aside from abdominal exercises, obviously.

Question - What type of accessory work can I add to the program to help maintain progress?

Initially, you should NOT add ANY form of accessory work to the basic outline of the program with the possible exception of some abdominal work and calf work done after your main work is done. Do your squats, benches, deadlifts, standing presses, and rows/cleans for at least 2 weeks before you even THINK about adding other stuff. After 2 weeks, you will have gone through 3 iterations of the program, and you will have developed the conditioning necessary to fully recover from each of the original workouts. At this time, you can think about adding some accessory work. But understand that most novices will actually do BETTER if they hold off and start the accessory work at the latest possible time.

Accessory work is OPTIONAL and NONESSENTIAL. You do NOT need to do this. However, 99% of you will wade through the first 2 weeks with marginal intensity just chomping at the bit until you can do the beloved arm curls.

The first exercises you should consider adding would be pullups/chinups and/or dips. Just hold your horses, you'll get to the damn arm work soon enough. You can add the dips and chins in a variety of ways, but the predominant marching order for the addition of this (and any other accessory work) is that the accessory work CANNOT UNDER ANY CIRCUMSTANCES NEGATIVELY AFFECT YOUR PRIMARY TRAINING.

Yes, it's in caps for a reason. Pay attention to it. The best way to short-circuit your progress and cut your nose off to spite your face is to go apeshit at the beginning of the 3rd week and add dips and chinups and pullups and barbell curls and triceps extensions and cable pressdowns and kickbacks and close-grip bench presses and whatever other arm work you find in the latest issue of Flex Magazine.

Add accessory work SLOWLY AND CAREFULLY. Start with no more than 2 sets of dips and/or chins/pullups for 8-12 reps per set. If you wish to add weight so that you can do 2 sets of 5 or 6 repetitions for strength building, then so be it, but tread carefully as additional weight can have a pretty major effect on your overall workload and can drain your capacity for recovery (as well as expose the trainee to potential injury, especially if their technique is shoddy).

Also consider that you will be working your "push" torso muscles heavily with the 5-rep sets of the benches/standing presses, so heavy dips may actually be counter-productive for many. By the same token, the heavy deadlifts and cleans/rows may be all the heavy pulling work that you need, and doing sets of 8+ reps rather than 5 reps for chinup/pullups would be advantageous.

The phrases of the day here are "caution" and "ease into it". Remember, this stuff is add-on, it is not even icing on the cake; it is more like the sprinkles that you put on the icing that you put on the cake.

Probably the "easiest/best" (and seemingly the most common) way to add the dips and chins would be as I directed in the original Rippetoe writeup, as follows:

Workout A -
squats - 3x5
benches - 3x5
deadlifts - 1x5
dips - 2x8

Workout B
squats - 3x5
standing press - 3x5
rows/cleans 3x5/5x3
chins/pullups - 2x8/3x8

The wise will probably do the first run-through with only 1 set of dips and chins/pullups. Gauge your recovery, and if you can get away with it, add a second set of chins/pullups and/or dips. Some may find their triceps and delts simply do not need the additional heavy dips, and 1 set would be sufficient. If you are doing cleans, you may find it feasible to up the chins/pullups by a set (or 2)

Now then, give it a few weeks, and gauge your arm development. Some people will notice immediate increases in the circumference of their arms from the simple addition of dips and chinup/pullups. Others won't. If your arms seem to grow from simply adding dips and chinups, then hold off on the arm work! your arms are getting hit hard, why mess with things if progress is good?

If you don't see/feel some extra arm stimulation after a few run-throughs with the 2 sets of dips and chins/pullups, then add in 2 sets, 8-12 reps of skullcrushers (a.k.a. lying extensions - any angle will do) and 2 sets, 8-12 reps Barbell, EZ-Bar or DB Curls on Fridays. **DO NOT ADD THE ARM WORK RIGHT AWAY.** If you jump from doing only the 3 exercises per day to adding the dips, chins, curls and extensions all in one fell swoop, you **WILL** suffer a short-circuit to your program and progress, and you will probably end up hurting your elbows and possibly your wrists. Ease into it.

Wait, I haven't made that clear yet, have I? Give it at least a few weeks. I'm betting you'll learn what I learned long ago...that direct arm work is highly overrated for someone who just walked into a gym for the first time and can actually be counterproductive when the trainee is left to do arm work as he pleases.

For more exacting detail, see section III - Programming

Question - What exactly is Accessory work? Do I do this everyday?

"Daily" accessory work is a set of potentially useful exercises that might be beneficial to add to the program once you progress in your conditioning and strength development. These accessory exercises are not necessary right off the bat, but can be used to add extra volume to your training if you need additional work. The goal of this program is to make you stronger at the squat, bench, deadlift, press and pull of choice. Accessory work **MUST** bring you closer to this goal if it is to be effective. Some people will progress **SLOWER** if they add the accessory work, and **EVERYONE** will progress slower if they add the accessory work too soon, or they add too much.

You would only do accessory exercises on the days you lift weights, and you would train these exercises **AFTER** your regular training program of the "Big 3" for that day. Ensure that you don't haphazardly add the accessory work. See Section III for specific recommendations on how to add the accessory work, as well as information contained within this section.

Programming

The basics

The basics, Part 1

Question - What is "programming"? What does it mean?

Programming is the logical, planned methodology developed for a workout routine used to reach pre-determined training goals. It includes all variables of training, such as exercises, days performed, sets/reps/weight/volume/workload, planned rest periods, and can even get as detailed as movement speed and rest between sets.

Programming is and should be, very simple for the beginner. It is necessarily more complex for the well-trained. What this means is that if you are a newb to training, you don't need some complex scheme or workout. A few basic exercises performed a few times per week with steady upward progression in weight is all that is necessary. As you get closer to your genetic limits through training experience, your programming will become more complex.

There is one basic law which guides programming development:

*** Use the LEAST COMPLEX PROGRAMMING possible at all times.

Only advance to more complex programming when absolutely necessary.

One of the biggest, if not THE biggest mistakes made is violating rule # 1. If you violate rule #1, it is a guarantee that you are slowing your gains down. You may still make gains, but you will not be making them as fast as possible if you are able to use less complex programming.

Simple programming = beginner = workout-to-workout progression and planning

Somewhat complex programming = intermediate = weekly or biweekly progression and planning

Complex Programming = Advanced = Monthly or quarterly progression and planning

Very complex programming = advanced/elite = Semi-annual or annual progression and planning

If you can make progress from workout to workout, then there is no need to use programming that is designed for week-to-week advances. You are slowing yourself down.

Question - What weight should I start with during the first week?

The weight you use is going to be determined by the amount you can do for 5 repetitions with proper execution and technique.

The way the "first day" is explained in Starting Strength, the trainee warms up with the bar, then adds a bit of weight and does a set of 5. Continue to add weight and do sets of 5 until form/technique breaks down. Keep the weight there, correct the technique problems/weak points, and perform 2 more sets with this weight. That is your first "3 sets of 5" workout for that exercise.

However, since we're talking about the internet, where 99% of all novices do NOT use proper technique, it has proven itself to be useful to advise that the trainee drop anywhere from 5-15% off his 5-RM, and start his next workout using that weight.

Yes, this is low. It allows for a certain fudge factor that is present when dealing with a novice's ability to evaluate his own technique performance.

Generally, if a newb says "I benched 135 x 5 for the first time, my technique was great!", what he really means is that "I benched 135 x 5, but I probably should've only used about 120 or 125"

Be on the safe side, start lighter than you think you need to, and go from there. This also helps develop a base of conditioning with slightly less weight than absolute max, which helps reduce initial DOMS.

Let me say that one again.

Start off using weight that is LOWER than you think you can handle, and progress upward. It is better to use weight that is too light than weight that is too heavy.

Question - How much weight should I add from workout to workout?

Originally Posted by Mark Rippetoe, pg. 122, Practical Programming Editorial Copy

for young males that weigh between 150-200 lbs., deadlifts can move up 15-20 lbs. per workout, squats 10-15 lbs., with continued steady progress for 3-4 weeks before slowing down to half that rate. Bench presses, presses, and cleans (edit - and rows) can move up 5-10 lbs. per workout, with progress on these exercises slowing down to 2.5-5 lbs. per workout after only 2-3 weeks. Young women make progress on the squat and the deadlift at about the same rate, adjusted for bodyweight, but much slower on the press, the bench press, cleans and snatches, and assistance exercises.

The general rule of thumb developed by me (for internet instruction purposes):

1) If you get all 3 sets of 5 with proper technique, then move the weight up as described above.

2) If you get all 3 sets of 5 with proper technique, but bar speed was exceedingly slow on the last few reps (i.e. you busted a nut trying to complete your reps), then you may end up stalling if you add the full amount. Err on the side of "lower". i.e. don't add 20 lbs to the deadlift, add 15. Don't add 10 lbs to the press, add 5 (or even 2.5), etc.

3) If you get the first 2 sets of 5 with proper technique, but you only get 4 reps on the 3rd, then determine if it was a "recovery deficit" (4 hours sleep last night/skipped meals, etc) or a "technique deficit" (body wasn't tight during presses, leaned forward too much in squat, etc). If the strength or technique deficit was an anomaly and/or is easily correctable, then you can probably add the normal amount of weight as described above. If the weight just felt dog heavy, then add only a bit more, or even keep the weight the same for the next workout. Better to get your 5/5/5 next workout then get a 5/5/3 or a 5/4/4 with a heavier weight.

4) If you get at least 12 or 13 of the reps total (i.e. 5/4/4 or 5/4/3 or 4/4/4) then keep the weight the same for the next workout.

If you get something strange like 5/5/2 or 5/3/4 on your 3 sets, then you probably just need to be more mindful of rest periods. Best to use 3 minutes between pressing, cleaning and rowing work sets and up to 5 for squats and deadlifts if necessary. For now, use a little too much rest rather than too little rest.

If you can't get at least the first set of 5, or if you are missing 2 or more reps each on the 2nd and 3rd sets, then you are using too much weight, assuming you recently started training.

If you had been making progress, but then all of sudden, you have several workouts in a row where you can't add weight to the bar for an exercise and get your 5/5/5, then see the sections on "stalling"

The basics, Part 2

Question - What are the basic considerations in programming

1) Exercise

Back squats, front squats, lunges, and leg extensions all train the quadriceps. If you have done these 4 exercises, you know darn well they have a VERY significant impact on the body overall. An exercise's affect is both "local" and "systemic".

Leg extensions have a very high level of "local" affect. The burn is brutal, and for a few minutes afterward, you may have trouble walking. If all you did for your legs was some hard leg extensions, then today you'd feel it, but tomorrow you'd probably be fine. Your leg extension workout will have zero affect on the rest of your body.

On the opposite end, back squats may not produce the specific localized burn that leg extensions do, but you may end up walking like a duck for upwards of 3-4 days afterward. When you're done with a squat workout, your legs and hips are tired, but your entire body is a bit tired as well.

2) Volume and Workload

Volume = sets * reps

Workload = sets * reps * weight used

3 sets, 5 reps, 200 lbs

$3*5*200=3000$ lbs of workload.

Generally, exercises performed with lighter weight can be done for a high # of repetitions, which may make things seem like higher reps = higher workload, but, you can't JUST take workload into consideration without also including:

3) Intensity

This is defined as % 1-RM. It is not "perceived exertion", nor is it "difficulty". This is the officially used and quantifiable definition for intensity.

So our above example, $3*5*200=3000$

This may very well work someone who can only bench about 230 lbs (200 lbs / 230 lb max = 87% intensity). However, if you can bench 300 lbs, then a 200 lb bench is only 66% of your 1-RM, so it doesn't do much.

It is helpful to adjust our basic workload equation with the intensity factor to get "adjusted workload"

For example:

230-lb bench press: 200lbs. = 87% 1-RM:

Adjusted workload = $3*5*200*87\% \approx 2610$

300-lb bench press: 200lbs. = 66% 1-RM

Adjusted workload = $3*5*200*66\% \sim 2000$

Notice the "Adjusted workload" for the stronger athlete is ~ 25% less despite using the exact same weight. This VERY important when determining heavy/light/medium days, as well as recovery days in a "volume-recovery-intensity" type scheme (both discussed later)

In order to keep warmup sets out of the equation, anything < 60-70% 1-RM is not used for purposes of workload calculation, unless several sets and/or reps are performed of said exercise.

4) Scheduling

For the general trainee, this is pretty flexible. For the specific athlete (i.e. a PL or football player), scheduling is one of the most important considerations and can possibly become the overriding determinant.

Joe Average lifts weights because he wants to. Joe Halfback lifts weights so he is better on game day. Joe Powerlifter lifts weights to be stronger for a competition. As such, the schedule and planning of training must suit the exact goals of the trainee.

5) Variation

Originally Posted by Mark Rippetoe, pg. 168-171, PP

The intermediate stage is the place where most athletes make their biggest training mistakes...Many intermediate trainees get caught up in an endless cycle of "changing routines", constantly messing with the weekly schedule of exercises, sets, and reps...variety lies in the way the basic exercises are applied, and not in a bunch of new exercises.

Translation - Just because you're not doing the core program, doesn't mean you shouldn't use core exercises. Do not change your primary workout stimuli from "squats-benches-rows" to "leg extensions - Nautilus flyes - Soup can curls". That isn't variety. That's stupid.

Originally Posted by Mark Rippetoe, pg. 173 PP

Variety for variety's sake is pointless. All training must be planned, and success must be planned for, and all the variety in the world is no substitute for correct planning. Translation - "Different" isn't always better. "Better planning" will equal "better", however.

Stalling and Resetting

Stalling and Resetting, Part 1

My bench is stuck now, and it won't go up. Why did I stall?

You will "stall" on some exercises faster than others. This is going to be a function of the following:

1) Experience with each exercise - if you have been benching for years or even months and you are only now deadlifting for the first time, you will stall on the bench long before

you stall on the deadlift, unless you make enormous weight jumps on the deadlift. This is the most typical "reason" for the bench stalling so soon.

2) Mechanical Complexity of each exercise - the mechanical complexity of the squat is far greater than that of the bench press. You have far more going on in each of the involved joints with the squat than with the bench press. As a result, you will hit a wall on the bench press before the squat.

3) Musculature involved with each exercise - You use far more musculature in the deadlift and squat when compared to the press. This means that you have a larger host of potential weak points in the deadlift and squat that gets fixed with training. As your weak points get stronger, your lift will get stronger, so you will "stall" later in the program on this exercise because you have a greater # of potential weak points to address (and improve). The press is much easier to perform properly, so technique will be a limiting factor for a much shorter period of time.

4) Total "upper limit" of the exercise - this is a function of the musculature and complexity of the exercise. The more you can POSSIBLY lift on an exercise, the longer it will take to reach your genetic potential, and thus the longer it'll take before you actually stall. Generally, your strength will be as follows, from strongest to weakest (once you are "fully and proportionately developed")

Deadlift > Squat > Bench press/power clean > Barbell row > Standing press

What this means is that, once you are "fully and proportionately developed", assuming you don't have any type of injuries, oddities in your structure (i.e. super-short, stumpy arms; very small hands/weak grip; genetic deformity/malformation of your spine, etc), or problems with your mindset (i.e. you're a pussy who is afraid to squat or deadlift), your deadlift will end up being your strongest exercise relative to the others, and your standing press will be the weakest.

Now that you can recognize that it is normal for your presses and rows to stall before you deads and squats, you must determine WHY you are stalling.

There are 4 different reasons for stalling, in addition to the basic guidelines above. Rip mentions 2 of them in Practical Programming, I'm going to expand that to 4 due to the questions I've seen asked via the internet.

Are you stalling because:

1) You aren't doing what you are supposed to be doing for recovery? This includes dietary considerations (enough protein/carbs/fats? Enough vitamins? Enough water? Skipping meals or eating every 2-4 hours?) as well as rest considerations (go to sleep at 10 PM or 1 AM with an 8 AM class that morning?)

2) You aren't adding weight properly. Yes, I'm talking to you greedy bastards who decide that you can jump 10 lbs between bench workouts, or you decide to add a 25 to each side of the bar for your next squat workout.

3) You have recently added exercises (such as dips/chins/arm work) or made your own adjustments to the program in whatever manner.

4) You are doing everything right WRT rest, recovery and weight progression, but you are simply advancing closer to your genetic limitations.

#1 is easy to fix. Get your ass to sleep on time, eat properly. Don't change anything about your training for at least a week until you have made 100% sure that you got your 8 hours of sleep, and that you ate your necessary calories EVERYDAY, didn't skip meals, got proper protein/carbs/fats during the day and at crucial times (especially post-workout, breakfast, and before bed). You screwed yourself on this one, but this one is easy to fix. Fix it and progress as normal until #4 describes you.

#2 is easy to fix as well. Drop 5 lbs on your presses and rows (and cleans, drop 10 lbs on your squat and deadlift, and start back up. This time, however, be sure to only add 5 for presses/rows/cleans, and add 10 for squats and deadlifts. This will USUALLY fix the issue, depending upon how rapidly you added the weight. A problem exists when you were adding weight to exercises that you had no business adding weight to. We'll get to you folks in a moment, because you may have induced overtraining (systemic overtraining, not "biceps overtraining" or "pectoral overtraining", both of which are misnomers)

#3 is usually pretty easy to fix as well. Stop EVERYTHING, strip back to the basic 3 exercises for the day, add a set or three of abdominal work, and THAT IS IT. Make sure you have #1 above in line, and train for a few weeks with only the basic 3 and the ab work. You greedy bastards were CONVINCED that 10 sets of barbell curls and triceps pressdowns wouldn't hurt, and instead of teh big gunz and teh bicept peak, you got your asses buried! Good for you. Listen next time ya damn teenage know-it-all! ;) (Yes, I was a teenage know-it-all.) (Hell, I'm a middle-aged know-it-all...nothing's changed, I'm just older and fatter!)

#4 is a "true stall". In other words, you are a coach's dream because you listened, did exactly what you were told, put forth full effort and intensity, you took your training (and especially your recovery/rest/nutrition) seriously, and yet you still hit the inevitable wall. See the questions regarding stalling and resetting.

Question - How do I know if I've 'officially stalled' and need to reset?

The following serves as an example. The #s are not exact, but they ARE representative, so if the weight change differences seem to describe you, then it applies to you, even if the exact poundages are different.

This assumes the average 150-200 lb teenage male. Make adjustments if you are older, smaller, or female.

Here is how training progression might look from week to week, assuming rest/recovery is ideal. When I say "bar speed", I'm making reference to your speed of movement in the concentric portion, i.e. are you really struggling and barely getting that last rep (bar speed very slow) or are you making that last rep nice and solid (bar speed good)

Squat:

135 x 5/5/5 (bar speed good)

145 x 5/5/5 (bar speed good)

155 x 5/5/5 (bar speed good)

165 x 5/5/5 (bar speed very slow)

175 x 5/4/4 (bar speed slow) - note missed reps workout after "bar speed very slow"

180 x 5/5/5 (bar speed good) - note 5lb jump = no missed reps + good bar speed, therefore, try a 10-lb jump again

190 x 5/5/5 (bar speed very slow)

195 x 5/5/5 (bar speed good) - note slow bar speed = 5lb jump = no missed reps + good bar speed

200 x 5/5/5 (bar speed slow)

205 x 5/4/4 (bar speed slow) - note attempt to correct bar speed and missed reps by very small incremental jump

207.5 x 5/4/4 (bar speed slow) - missed reps, small jump, bar speed slow

210 x 5/4/3 (bar speed very slow) - more missed reps, very small jump, very slow bar speed, keep weight the same

210 x 5/3/3 (bar speed very slow) - again, missed reps with NO boost in weight used, attempt one more time

210 x 4/4/3 - time for a reset

Note how the weight progresses. 10-lb increments with steady bar speed means more 10-lb increments. Bar speed slows down or missed reps = half the increments (down to 5 or 2.5). Smaller incremental jumps in weight should eliminate missed reps as well as produce good bar speed. If you are missing reps, even after the smaller incremental jumps, then keep the weight the same. If you cannot hit your 15 reps even after keeping the weight the same for three consecutive workouts, then it is time to reset.

Bench:

135 x 5/5/5 (bar speed good)

140 x 5/5/5 (bar speed good)

145 x 5/5/5 (bar speed slow)

150 x 5/5/4 (bar speed slow)

155 x 5/5/4 (bar speed slow)

160 x 5/4/4 (bar speed very slow)

162.5 x 5/5/5 (bar speed good)

165 x 5/5/5 (bar speed good)

167.5 x 5/4/4 (bar speed slow)
170 x 5/4/3 (bar speed very slow)
170 x 5/4/3 (bar speed very slow)
170 x 4/4/4 - time for a reset

Deadlift:

135 x 5/5/5
150 x 5/5/5
165 x 5/5/5
180 x 5/5/4
190 x 5/5/5
200 x 5/5/5
210 x 5/5/4
220 x 5/5/3
225 x 5/5/5
230 x 5/5/5
235 x 5/5/5
240 x 5/5/4
245 x 5/4/4
250 x 5/3/3
250 x 4/4/4
250 x 5/3/3 - time for a reset

By now, you should get the idea. Once the bar slows down, make note that you will probably need to reduce the weight jumps pretty soon. When you start missing a rep here or there, assuming you are resting and recovering properly, then you'll need to reduce the weight jumps. Once you start missing reps in multiple sets or multiple reps in one set, then keep the weight the same. If you can't get your 5/5/5 after using the same weight for 3 workouts, then it's time to reset.

Stalling and Resetting, Part 2

I stalled on an exercise, what should I do? How do I "reset"?

First, if you haven't read "My bench is stuck now" as well as "How do I know if I'm officially stalled" then do so before proceeding.

Okay, assuming you read the above, and you are in "class #4" and you have 'officially stalled', then proceed as follows.

We'll use our stalled squat example:

Squat:

135 x 5/5/5 (bar speed good)
145 x 5/5/5 (bar speed good)
155 x 5/5/5 (bar speed good)

165 x 5/5/5 (bar speed very slow)
175 x 5/4/4 (bar speed slow) - note missed reps workout after "bar speed very slow"
180 x 5/5/5 (bar speed good) - note 5lb jump = no missed reps + good bar speed, therefore, try a 10-lb jump again
190 x 5/5/5 (bar speed very slow)
195 x 5/5/5 (bar speed good) - note slow bar speed = 5lb jump = no missed reps + good bar speed
200 x 5/5/5 (bar speed slow)
205 x 5/4/4 (bar speed slow) - note attempt to correct bar speed and missed reps by very small incremental jump
207.5 x 5/4/4 (bar speed slow) - missed reps, small jump, bar speed slow
210 x 5/4/3 (bar speed very slow) - more missed reps, very small jump, very slow bar speed, keep weight the same
210 x 5/3/3 (bar speed very slow) - again, missed reps with NO boost in weight used, attempt one more time
210 x 4/4/3 - time for a reset

Again, note that we started with 10-lb jumps. We started missing reps shortly after bar speed slowed down. This isn't so much causative as it is indicative. Finally, we obviously hit the wall because we could not reach the 5/5/5 requirement despite using the same weight for 3 consecutive workouts.

How to proceed? Proceed by dropping 10% from your stalled weight, or as follows:

~~~~~

210 x 5/4/3 (bar speed very slow) - more missed reps, very small jump, very slow bar speed, keep weight the same  
210 x 5/3/3 (bar speed very slow) - again, missed reps with NO boost in weight used, attempt one more time  
210 x 4/4/3 - time for a reset

170 x 5/5/5  
180 x 5/5/5  
190 x 5/5/5  
200 x 5/5/5  
210 x 5/5/5 - back to previous missed weight during 2nd week  
215 x 5/5/5 - note reduced weight advancement, only 5 lbs instead of 10 per workout  
220 x 5/5/5 - etc.

Question - What happens if I've gotten a lot weaker in a couple of my lifts? Should I just reset?

Chances are good that a basic reset won't work. If you've actually regressed in your training for a few workouts, i.e. something like the following:

165 x 5/5/5 (bar speed very slow)

170 x 5/4/4 (bar speed very slow)  
172.5 x 5/4/4 (bar speed very slow)  
175 x 4/3/2 (bar speed very slow)  
175 x 4/2/2 (technique breakdown)  
175 x 3/2/1 (bar weighed "a ton")

then a simple 10% drop won't cut the mustard. You will need a more intensive "reset". If it only happens on one exercise, while your other exercises are progressing along, then no biggie. We can just do a bigger reset. If it is happening on a few of your exercises, or if you have already reset once or twice, then you probably need to do a deload and make a switch to your training planning and progression. That's right Willie, you're no longer a newb! :D

Anyway, the 'more intensive reset' would look something like the following:

175 x 4/3/2 (bar speed very slow)  
175 x 4/2/2 (technique breakdown)  
175 x 3/2/1 (bar weighed "a ton")

Do only warmups

160 x 5 (weight felt kinda heavy)  
160 x 5/5 (weight felt a bit heavy on 2nd set)  
160 x 5/5/5 weight felt pretty light  
165 x 5/5/5 weight felt pretty light  
170 x 5/5/5 weight felt pretty light  
172.5 x 5/5/5 weight felt a bit heavy  
175 x 5/5/5 weight felt properly challenging  
177.5 x 5/5/5 weight felt properly challenging

A few points of note.

- 1) Do not skip a workout (yet). Just do the exercise, but stop at the warmups. Don't do a full "work set" yet.
- 2) The first workout will be 1 set of 5 with ~10% less weight than the previous stall point.
- 3) The second workout will add a 2nd and 3rd work set, but only if the weight feels pretty light.
- 4) Once 3 work sets @ ~10% less than previous PR are established, move upward in normal increments, workout-by-workout, until you get back to the previous stall point
- 5) Proceed with the smallest weight increments beyond the stall point

This is an obviously more intense backoff period than a basic reset, and will usually only be done once before a full-on deload and "upgrade" to the programming is necessary.

How often can I reset before I know it's time to move on?

Generally only 2 resets for the squat and perhaps 1 for the deadlift will be done before it's time to move on. As long as these 2 exercises are still moving up, however, there is no need to change programming. If you need to do a "bigtime reset" as described above, or if you are stalling on multiple exercises at once, then it is time to move on as well.

## What to do after Rippetoe

### What to do after Rippetoe, Part 1

Question - What do I do after the Rippetoe novice program stops working?

Simply put, what do I do, how long do I do it, and when do I switch up?

The following progression will be SPECIFIC to individuals who have NEVER LIFTED WEIGHTS BEFORE. This is not for the older guy who is getting back in shape, this is for the kid/guy with very little or zero barbell training experience. This is a slight adjustment from the original writeup I did. Mark Rippetoe and I discussed progression via conversation, and he also has a large portion of "Practical Programming" dedicated to this type of question, so here is where things stand now.

"Base Novice program"

Workout A

Squats - 3x5

Bench - 3x5

Deadlift - 1x5

Workout B

Squats - 3x5

Standing Press - 3x5

Lighter pull from floor (rows 3x5 or cleans 5x3)

Why so few exercises? Why so little sets and reps? Why not add a few things right off the bat? Where the hell is the arm work? Check the Table of Contents, Section V. I address all of that specifically.

You progress on the base novice program for as long as you can add weight to the bar every workout. If you stall on one of the lifts but continue to progress on the other 2, you can make some "adjustments" to that specific troublesome lift (See Table of Contents - Section III - Programming - stalling and resetting), but continue to drive on with the other 2. Understand that 99% of you will stall faster on the presses and lighter pulls than you will on the squats and the heavy pulls (i.e. deadlifts).

Once you become tolerant to the volume contained within the base novice program, you can begin to judiciously add exercises. For some completely untrained/unfit/unathletic people, and especially for those who are "more mature" (i.e. an old fart, like me), you could end up sticking with this basic program for several weeks. For the naturally strong or the fit athlete involved in strength-oriented sports such as football, hockey, wrestling, martial arts, etc, this initiation period may only be 2 weeks, and you will be ready to tolerate added work.

At this point, 2 bodyweight exercises can be added.

#### Workout A

Squats - 3x5  
Bench - 3x5  
Deadlift - 1x5  
DIPS - 2 x 8-12

#### Workout B

Squats - 3x5  
Standing Press - 3x5  
Pull from floor (rows 3x5 or cleans 5x3)  
PULLUPS/CHINS - 2 x 8-12 - (3 sets of pullups/chins can be done if you do the cleans instead of the rows)

You add dips to Workout A and chins to workout B. Which should you do, pullups or chinups? How wide should your hands be? Why 8-12 reps? See Table of Contents, Section II, under Accessory Exercises.

Give this a few weeks. Most people, if they introduce these 2 exercises correctly (i.e. you don't rush it, and you maintain proper nutrition/rest/recovery) will be able to make a few months worth of solid progress with this exact template. Eventually, however, most of you will get impatient and will INSIST on adding some direct arm work. Here is how you should add it.

#### Friday workout only

curl - 2 x 8-12  
triceps extension (TriEx)- 2 x 8-12

Notice it's not added to Workout A AND Workout B? notice it's not always added to the SAME workout all the time? You add it to the Friday workout because you will have an extra day to recover from the training. Exact techniques on the curls and extensions is further discussed in Section II, Accessory Exercises.

Abdominal work is desirable. Abdominal work can be added carefully from the time you begin the training. Do NOT overdo this, as your midsection will take a pounding from the squats, deadlifts, and pulls from the floor. You do not want your midsection tired while performing these lifts or you can injure yourself. As a result, I highly recommend you

start off with 1 set of abs per workout during the first week, and add no more than 1 set of abdominal exercise per week. For more specific advice regarding abdominal training, once again, head over to Section II.

For additional training of the posterior chain (i.e. the lower back, the glutes and the hamstrings), you can add back extensions, aka "hyperextensions", reverse hypers or GHR (glute ham raises). BE VERY CAREFUL WHEN ADDING THIS TRAINING. It's not supposed to be exhausting, so don't make it so. You probably won't need this for a LONG time. Regardless, 1 or possibly 2 sets of 12-15 reps, not to failure, should be sufficient. Of course, head to Section II for more specific information regarding these exercises and their proper application.

If you add ALL this stuff, this is how it will look. Note that it will probably take several months before you really need to work up to this level and volume (and complexity). For God's sakes, DON'T START OFF WITH ALL THIS STUFF!!! Do the BASE NOVICE WORKOUT for as long as possible. The less work you do in the gym at the start, the more energy you have for recovery. The more energy you have for recovery, the better you will grow. You only need to add the extra "stuff" once the original "stuff" no longer sufficiently stresses your body.

#### Monday - Workout A

Squats - 3x5  
Bench - 3x5  
Deadlift - 1x5  
Dips - 2 x 8-15  
GHR - 2 x 12-15  
Abs

#### Wednesday - Workout B

Squats - 3x5  
Standing Press - 3x5  
Pull from floor (rows 3x5 or cleans 5x3)  
Pullups/chins - 2 x 8-15 (3 sets if you do the cleans)  
Abs

#### Friday - Workout A

Squats - 3x5  
Bench - 3x5  
Deadlift - 1x5  
Dips - 2 x 8-15  
Curls - 2 x 8-12  
TriEx - 2 x 8-12

Once again, you MUST be able to add weight to the bar on your main exercises. If you add the exercises and you aren't able to recover, or you aren't adding weight to the bar on your main exercises, then this is not the answer.

Question - How long should I do this program?

"Until it stops working" is the frustrating response I have given on several occasions. This is obviously an overly simplistic way of describing things, so I will attempt to describe it further here, and give a method to the madness of the slightly more advanced programming necessary for the intermediate trainee.

As I stated earlier, only 2 resets for the squat and perhaps 1 for the deadlift will be done before it's time to move on.

You will probably reset the press a few times before it is time to change programs. As long as the squat and deadlift are still moving up, however, there is no need to change programming. If you need to do a "bigtime reset" as described above, or if you are stalling on multiple exercises at once, then it is time to move on as well.

Question - How can I do an offload/deload within the confines of the program?

Try this as a 'Rippetoe deload', for a week (even 2):

Monday and Friday

Squats - 3 ramped sets up to top set of 5 (i.e. warmups + 185 x 5, 225 x 5, 275 x 5)

Bench - 3 ramped sets up to top set of 5 (i.e. warmups + 135 x 5, 165 x 5, 205 x 5)

Pendlay row - 3 ramped sets up to a top set of 5 (i.e. warmups + 95 x 5, 125 x 5, 155 x 5)

Abs - weightless situps or leg raises, 3 x 10

No accessory work, aside from a few sets of abs to keep them tight, and even this is optional.

Instead of 3 sets of 5 ("sets across"), do what amounts to 1 work set of 5, as described above, by "ramping" your weights, i.e. doing 5 reps per set, but adding weight each set up to your top weight.

This will keep you training, but will give you a much needed break. Workout time should not exceed 1/2 hour to 45 minutes. Your intensity will still be "high" because you'll be hitting a heavy weight at the end of the workout, but your total workload (both actual and adjusted) will be quite low, because only 1 set will be of substance with each exercise.

This is one way of deloading (one of several). Other methods might include only doing 3x3 on Monday and Friday with your previous 3x5-rep weight, another method might be doing only main exercises on Monday, and then only Assistance exercises on Wednesday and/or Friday.

A straight "deconditioning" means you take a week or two completely off. No training at all. This is pretty good for the advanced lifter who can read when they've really pounded themselves into the ground, but is generally less useful for the novice and early-

intermediate trainee, who probably hasn't built up enough systemic fatigue to fully benefit from the time off. In other words, I wouldn't try a straight deconditioning yet.

I did the dips and stuff, added the arm work and the GHRs, and now, after a few months, it's time to move on. What now?

You have already progressed past the initial workout scheme (with added stuff):

Monday - Workout A

Squats - 3x5  
Bench - 3x5  
Deadlift - 1x5  
Dips - 2 x 8-15  
GHR - 2 x 12-15  
Abs

Wednesday - Workout B

Squats - 3x5  
Standing Press - 3x5  
Pull from floor (rows 3x5 or cleans 5x3)  
Pullups/chins - 2 x 8-15 (3 sets if you do the cleans)  
Abs

Friday - Workout A

Squats - 3x5  
Bench - 3x5  
Deadlift - 1x5  
Dips - 2 x 8-15  
Curls - 2 x 8-12  
TriEx - 2 x 8-12

and it's time to move on. You have reached the point where you are in a Catch22 with linear progression. What to do now?

Time to move on to the Intermediate stage.

## **What to do after Rippetoe, Part 2**

Moving on to the intermediate stage

Now that you have advanced in both conditioning and strength, you require more of a workload each training session to disrupt homeostasis. However, the weight you use and the workload you require is too much for you to recover from in only 24-72 hours.

Progression and planning will no longer be from workout to workout, it will be from week to week. Congratulations, you have advanced to the next stage, that of the intermediate!

There are TONS of different things you can do. Chances are good you will want to branch out and play with a bunch of fancy machines and cable exercises and set up a 5-day bodypart split and give teh biceps their own day, etc. If you want to do that, then go for it, but you'll need to look elsewhere for that type of info.

After speaking at length with Mark Rippetoe, and reading through the appropriate chapters of the Editor's copy of Practical Programming, there is quite a bit of info on intermediate programming, which picks up, in detail, where Starting Strength left off.

Generally, after several months of consistent, hard training with proper rest, nutrition and recovery, progress will eventually stall and daily workout-to-workout progress will no longer be possible. The body is simply conditioned to the point where the amount of stress necessary to disrupt homeostasis is greater than the body's ability to recover in a few days. Additionally, the amount of weight being used is going to be much higher than it was when training first began.

In other words, in order to get the "training affect", you need to pound yourself harder than you can recover from. Your workout abilities have exceeded your recovery abilities.

A simple training period (training period = period of training and recovery whereby homeostasis is disrupted by training, and sufficient time is allowed to recover and progress) no longer is comprised of 1 workout, but of several. By this point, the trainee, now at the intermediate stage, may have some specific direction or specialization they desire, and may have decided that he/she wants to become a powerlifter or a football player or a bodybuilder or a track/field athlete, etc. As such, more complex training protocols are going to be needed.

Rippetoe describes in great detail several methodologies for progression in Practical Programming. I will reproduce a very few of these here so as not to "steal his thunder", as well as give a few of my own that I didn't see him mention. He discusses, at length, 4, 5, and 6-day per week training routines, upper/lower, push/pull, and variations on the Starr model. I will discuss and explain the application of a few here.

Question - What are some very basic adjustments I can make to the program?

Here are some more examples using substitution semi-core exercises. Some are mentioned in PP, some are of my own design. All are obviously intuitive for the experienced individual or strength coach.

Incorporating front squats, doing more chinups, all sets 3x5, cleans 5x3, deadlifts = 1x5, chinup/pullups = 3x8-15

Week 1

Monday: Squat/Bench Press/Chinup

Wednesday: Front squat/Press/Deadlift

Friday: Squat/Bench press/Pullup

Week 2

Monday: Squat/Press/Chinup

Wednesday: Front squat/Bench Press/Row or clean

Friday: Squat/Press/Pullup

Front squats, deadlift variations

Week 1

Monday: Squat/Bench Press/Chinup

Wednesday: Front squat/Press/Romanian Deadlift

Friday: Squat/Bench press/Pullup

Week 2

Monday: Squat/Press/Chinup

Wednesday: Front squat/Bench Press/SLDL

Friday: Squat/Press/Pullup

Once an increase in volume is possible, adding a single "backoff" set of 8 repetitions after the 3x5 is done can also be useful (not needed for regular deads or cleans)

So, here we have the "Bodybuilder" variation

Week 1

Monday: Squat 3x5, 1x8/Incline Bench Press 3x5, 1x8/Chinup 4x8-15

Wednesday: Front squat 3x5, 1x8/Seated Press 3x5, 1x8/SLDL 3x5, 1x8

Friday: Squat 3x5, 1x8/Incline Bench press 3x5, 1x8/Row 3x5, 1x8

Week 2

Monday: Squat 3x5, 1x8/Incline Bench Press 3x5, 1x8/Chinup 4x8-15

Wednesday: Front squat 3x5, 1x8/Seated Press 3x5, 1x8/SLDL 3x5, 1x8

Friday: Squat 3x5, 1x8/Incline Bench Press 3x5, 1x8/Row 3x5, 1x8

General guidelines about accessory exercises still apply.

Understand that you should be using heavier weight each time you hit the same specific exercise, in some way or another. The workload must go up consistently until a reset is necessary.

Question - What about the Bill Starr/Madcow 5x5 and stuff? Can I do them next?

Sure. They are excellent training programs!

Bill Starr-type 5x5 workouts

\*\*\*\*\*

## "Beginner's" 5x5

Monday (Heavy Day - > 85%)

Back Squats: 5 x 5 Ramping to max set of 5 reps across 5 sets

Bench Press: 5 x 5 Ramping to max set of 5 reps across 5 sets

Deadlifts: 5 x 5 Ramping to max set of 5 reps across 5 sets

Wednesday (Light Day - <70%)

Back Squats: 5 x 5 using 60% of Monday's weight

Bench Press: 5 x 5 using 60% of Monday's weight

Pullups: 5 x 5 Ramping to max set across 5 sets

Friday (Medium Day - 70-85%)

Back Squats: 5 x 5 using 80% of Monday's weight

Bench Press: 5 x 5 using 80% of Monday's weight

Rows: 5 x 5 Ramping to max set across 5 sets

Each Monday should be heavier than the previous. As such, Wednesday and especially Fridays will be a bit heavier as well, from week to week.

\*\*\*\*\*

The well-known "Intermediate 5x5" and "Advanced 5x5 by Pendlay" can be found at Madcow's website

\*\*\*\*\*

Another of Bill Star's workouts, this time with a bit more variety and choices:

Monday (Heavy Day)

Back Squats: 5 x 5 ramping to limit

Bench Press: 5 x 5 ramping to limit

Deadlifts: 5 x 5 ramping to limit or Bent-Over Rows: 5 x 5 ramping to limit

Incline Dumbbell Press: 2 x 20 (light weight)

Calf Raises: 3 x 30

Wednesday (Light Day)

Back Squats: 5 x 5 using 50 lbs less than Monday or Lunges: 4 x 6 ramping to limit

Good Mornings: 4 x 10 or Stiff-Leg Deadlifts: 4 x 10

Standing Overhead Press: 5 x 5 ramping to limit

Dips: 2 sets, when you can do 20 reps, start adding weight and drop the reps back to 8

Curls: 3 x 15

Friday (Medium Day)

Back Squats: 5 x 5 ramped, using 20 lbs less than Monday

Incline Bench Press: 5 x 5 ramping to limit  
Shrugs: 5 x 5 ramping to limit or Clean High Pulls 5 x 5 ramping to limit  
Straight Arm Pullovers: 2 x 20  
Chins: 4 sets to failure

You can choose either of the optional back exercises and stick with them or set them up as follows and alternate:

Odd weeks: Monday - Deadlifts, Wednesday - Good Mornings, Friday - Shrugs

Even Weeks: Monday - Bent Rows, Wednesday - SLDL, Friday - Clean High Pulls

After two or three weeks, you can add in back-off sets (lighter weight, 8-10 reps) on all of the pressing exercises, squats, and lunges. No back-offs for any back movement. Should you want to work more on any back exercise, do another top-end set.

If you get 5 reps on your top set, add weight next week.

\*\*\*\*\*

Overall, note that Wednesday is a "recovery" day, where you do a workload that is going to be noticeably lighter than either Friday or Monday's workout. it's not just %age of 1-RM, it is also "effort".

Page 150 of Practical Programming - Editorial Edition, has a great table which shows %-1RM and how it corresponds with repetitions and difficulty.

On Wednesday, you might only use 70% of your 1-RM, but if you do 4x10 with it, that is going to be HARD, even if it is "low intensity". If you only do 3x8 with that same 70%, that would be a "medium" type workout, and 2-3x5 would be a "light" workout. This is VERY VERY important and is darn near worth the \$15 "preorder fee" of PP alone.

### **What to do after Rippetoe, Part 3**

Question - What are some other ideas for effective training once the novice program has worn its welcome?

How about VRI - Volume/Recovery/Intensity? Rippetoe describes this basic programming methodology as one of the most effective for the intermediate trainees. The advanced trainee can also use this, with the obvious adjustment to training periods (i.e. instead of weekly, monthly or bi-monthly, etc)

This intermediate training program variation should look rather familiar to those who have made their way around the various internet training sites.

We'll call this one "V-R-I", which, of course, stands for Volume, Recovery, Intensity. The premise is simple...you don't have 1 single workout, you have a week's worth of

workouts. Each session builds on the previous session, and influences the next session. The weekend is used for final (and full) recovery. I'll give some examples that Rippetoe doesn't give specifically, but still fit in with the general design. If you want to get his exact workouts, go buy the book.

Session 1 of the week is going to be the "stress" workout, where volume at an appropriate training intensity (%age 1-RM) is used to stress the body. This is the "meat and potatoes" workout of the training period (week). Session 2 is going to be an offload/recovery workout, where you use easier exercises, submaximal intensity-of-effort and submaximal weights, as well as reduced overall volume. This session is NOT to be skipped. Session 3 is going to be PR day. Intensity is low, volume is high. The specific exercises do not necessarily have to be the same. Appropriate substitutions can be used. Note that from one week to the next, you should be increasing your workload on the corresponding Monday and Friday workouts. If you do 5x5x200 this week on volume day, next week you should be doing 5x5x205 or perhaps 5x6x200 or 6x5x200.

What would a Volume-Recovery-Intensity workout plan look like?

In the following example, which is of my own specific design based on PP Chapter 7 Editorial Copy, take note of several things:

- 1) Sets x reps are used as examples, not necessarily as specific recommendations and certainly not as requirements. Take a look at overall workload
- 2) Each day is organized as "squat/press/pull from floor"
- 3) Monday will be the highest workload, Wednesday will be the "lighter" variation of the Monday exercises and will be done with less volume, and Friday will be the heavy day where you hit it hard and heavy, but only ramping to a single max workset
- 4) "Assistance" exercises are introduced (seated press, front squat) - note that assistance exercises are NOT the same as accessory exercises. Assistance exercises can be considered "semi-core" exercises because of their ability to stimulate large amounts of muscle mass across multiple joints. RDLs, barbell rows, chinup/pullups, dips, and front squats are mentioned in PP. They also allow for consistent and accurate workload comparisons between the exercises. For example, the deadlift is the core exercise. The RDL and bent rows are semi-core exercises. The hyperextension and GHR would be accessory exercises. Note - the phrase "Accessory exercise" is NOT used by Rip. It is, however, a generally known, recognized, and understood term which describes "lighter/easier" exercises which can be done to add a bit of volume to an area needing a bit of extra emphasis, without throwing overall workload #s out of whack.

Monday (Volume)

Squat - 4x8

Bench - 4x6

Barbell rows - 4x8

Accessory: Abs + lower back

Wednesday (Recovery)

Front Squat - 3x5  
Seated press - 3x5  
Power cleans - 5x3 (or pullups, 3 x 8-15)  
Accessory: abs only

Friday (Intensity)  
Squat - ramp to max set of 3 or 5  
Bench - ramp to max triple  
Deadlift - ramp to max single, double or triple  
Accessory: Abs + Direct arm work + lower back work

Note how Monday becomes a day where you do a lot of sets and reps (5x6, 5x5, 6x3, 4x8, etc).

Wednesday is a day where you use "lighter" substitution semi-core type exercises for less volume

Friday is 'PR day'. This day will be pretty short because only 1 "work set" is being done, so you can fill in a bit of volume with arm work and the like.

Another variation, similar to the above, but with DBs and some other exercise choices incorporated:

Monday (Volume)  
Front Squat - 5x5  
Incline DB Press - 5x6  
Bent Rows - 5x8  
Accessory: Abs + lower back

Wednesday (Recovery)  
Lunge - 3x8  
Seated DB press - 3x5  
Pullups - 3x10-15  
Accessory: abs only

Friday (Intensity)  
Back Squat - ramp to max set of 3 or 5  
Barbell Bench Press - ramp to max triple  
Deadlift - ramp to max single, double or triple  
Accessory: Abs + Direct arm work + lower back work

Question - What about push/pull, upper/lower or powerlifting type routines?

Push-pull workouts require that you separate the body into 4 "functional groups"

Upper body Push  
Upper body Pull  
Lower body Push

## Lower body Pull

You then begin training with this in mind, picking 1 to 3 appropriate exercises for each.

Examples:

Upper/Lower push:

Bench Press

Overhead press

Dips

Squat

Upper/Lower pull:

Chinups

Rows

BB Curls

Deadlifts

This is obviously the most simplistic version. It is quite effective, remarkably so. It is also very useful in "reverse", i.e.

Upper Push/Lower Pull:

Bench

OH press

dips

DL

[b]Upper Pull/Lower Push

Chins

Rows

BB Curls

Squats

You would do these on alternating days, i.e. Monday-Wednesday-Friday-Sunday-Tuesday-Thursday-Saturday. You can't do these 2 days in a row, because you can't deadlift and squat on consecutive days, usually.

Upper-Lower workouts tend to be a bit more balanced, as opposed to push-pull, which tend to be upper-body dominant. They also lend themselves easier to performing on consecutive days, i.e. Monday-Tuesday/Thursday-Friday, as well as allowing for weekly progression of "heavy/light" training

Examples:

Upper - Monday (heavy)

Bench Press - 3x5  
Barbell row - 4x5  
Standing push Press - 3x8  
T-Bar Row 4x8  
arms

Lower - Tuesday (light)  
Squats - 2x10  
SLDL - 3x10  
leg extensions/curls - 2x15  
calves

Upper - Thursday (light)  
Incline DB press 2x10  
BTN Pullups - 3x10  
Seated DB press - 2x10  
Chinups - 3x10  
arms

Lower - Friday (Heavy)  
Deadlifts - 3x3  
Front squats 4x5  
calves

Don't sweat the exact reps or sets, you make these adjustments as you need. I listed them just as very simple examples, without specific endorsement.

Both of these can fit nicely into a VRI (volume-recovery-intensity) type template as well.

The standard PowerLifting type routine is also very beneficial. If you don't want to be a powerlifter, simply use slightly higher repetitions (i.e. instead of 1-5 reps, use 5-10 reps, etc)

Sunday - Press + assistance (possibly a lighter press day)  
Monday - Squat + assistance  
Tuesday - off  
Wednesday - Press + assistance (possibly a heavier BP day)  
Thursday - off  
Friday - Deadlift + assistance  
Saturday - off

Question - How do I include speed work in the programs?

Buy Practical Programming. He discusses this (and tons of other stuff) quite a bit.

Hey, I can't type out everything! Buy the book ya cheap bastid! ;)

# General Questions

## General Questions, Part 1

Question - What is linear periodization? What is dual factor periodization? Which type does this program use?

This program relies on "linear progress", which means that you will track progress from workout to workout. You are untrained, so you can disrupt homeostasis and cause a "training effect" with very few sets (3, for example). The benefit of this is that you can recover quickly from only a few sets. What this means is that you can do an exercise today, "trash" yourself because of your poor conditioning with a pretty easy workload, then come back in a few days and be fully recovered. It simply doesn't take much to cause the necessary training/recovery stimulus when you're new to the weights. This is the benefit of being an absolute novice/beginner. As you progress in your conditioning, you might be able to add a set here or there or perhaps an extra exercise for a set or 2 (such as dips), and still progress from workout to workout.

Eventually, your strength and conditioning will be such that more than only a few sets will be required to disrupt homeostasis. You will be better conditioned, and you'll require higher volume and workload to get the training effect. Unfortunately, you won't be able to recover as rapidly, and as a result, a workout scheme slightly more complex than "add weight to the bar each time" will be required. Linear periodization is what the successful intermediate will use during this period. They are stuck halfway between the rock and the hard place. They have enough conditioning to recover pretty quickly between workouts, but they require far more stimulus to disrupt homeostasis and produce a training affect. Instead of progress being workout-to-workout, progress ends up being week to week. Interestingly, this is where the majority of trainees end up, toiling about in "intermediate-ville" for the majority of their training lives, because they can't use "anything" to grow, like they did when they were newbs, and they really aren't going to get a lot out of the typical professional bodybuilder's training regimen at this time either. Regardless, there will come a point when even linear periodization isn't going to be enough.

Dual factor periodization is an incredibly effective technique that can result in great strength and development advances for a very well-trained athlete who has hit the wall in their training progression after years of hard, consistent training. Not only can they not make incremental weight increases on their exercises from workout to workout, they can't even make increases from week to week, and a certain level of "down/backoff" time needs to be planned into what amounts to a semi-annual or possibly annual training cycle. The workouts aren't taken from day to day or even week-to-week, they will be taken in larger periods, such as a month or 6-week period. The workouts are organized to provide cumulative stress to the body over several weeks and many workouts.

If you are considering this program, then the need for such complexity is miles away. You need to do the basics, you need to practice the basics, and you need to add weight to the bar every workout, consistently, for as long as possible.

Once you have spent some time in the iron game and your training has progressed to the point where you can't reasonably add weight (or repetitions) to the bar without specific planning and workload manipulation, then you will require some form of periodization. That is beyond the scope of this program, and, for now, is unnecessary. It will be something to look forward to in the future, and hopefully for you, FAR in the future. The longer you can milk the "basic linear progress" (i.e. add weight to the bar every workout), the farther you'll get and the quicker you'll get there.

Question - Do I do all the exercises together, or do I do 1 set of squats, followed by a set of benches, etc?

You don't switch back and forth between exercises, which is circuit training. Circuit training is when you do a single set of squats, followed by a single set of bench presses, followed by a single set of deadlifts, then repeat this "circuit". That is not appropriate for this program.

You do ALL of your squats, followed by ALL of your benches, followed by ALL of your rows.

Circuit training can be used for the accessory work if you like, but your main work is done 1 exercise at a time. You completely finish all sets of one exercise before moving on to the next exercise.

Question - How do I determine my 1-RM and 5-RM (1 rep max and 5 rep max)?

Before progressing further, it is of importance to understand that the novice CANNOT and SHOULD NOT perform a 1-RM for any exercise.

1) Their technique cannot possibly be proper, and this opens the trainee to a host of potential injuries and mishaps (Train wreck waiting to happen)

2) From page 162, Practical Programming

Originally Posted by Mark Rippetoe

*(Novices) lack the motor skill to perform a valid one-repetition maximum effort on any barbell exercise. They have only been performing the movements a short time, and have not had a chance to develop the motor pathway of the movement to the point where the effort can be the focus instead of the movement pattern.*

In other words, a newb's 1-RM is useless for programming purposes. Nothing positive can be derived from performing a 1-RM. It is not indicative of the trainee's actual strength, and a 1-RM is not useful as a training stimulus because it lacks the necessary volume to cause any type of homeostatic disruption, which results in a training/adaptation response. A newb's 1-RM will be more indicative of how well he performs the movement, rather than how strong he is.

For this program, the way you determine your 5-RM is to perform your 5-RM.

Let's say you "estimate" that you can probably do 200 lbs for a set of 5

You would do a warmup and slowly pyramid up to the max set as follows:

bar x 10  
95 x 8  
135 x 5  
165 x 3  
185 x 1

200 x 5

if that felt pretty easy, then shoot for 205 or 210 after a long (5 minute) rest.

For funsies, you can use the Brzycki equation to determine your 1-RM approximation.

$$1RM = \text{Weight} \cdot ( 1.0278 - ( 0.0278 \cdot \# \text{ of reps} <5> ) )$$

You can use this info to:

- 1) Calculate intensity for whatever percentage of your 1RM you deem appropriate
- 2) Reverse the formula to back out your maximum weight with any number of reps

$$\text{Weight} = 1RM \cdot ( 1.0278 - ( 0.0278 \cdot \text{Desired number of repetitions} ) )$$

An alternative equation is as follows:

$$1RM = \text{Weight} \cdot ( 1 + ( 0.033 \cdot \text{Number of repetitions} ) )$$

The corresponding reversed equation is:

$$\text{Weight} = 1RM \cdot ( 1 + ( 0.033 \cdot \text{Desired number of repetitions} ) )$$

This last information, regarding Brzycki, is only for fun. You won't need this, and I include this only to keep novices from attempting to do their 1-RM so they can brag to their buddies. It probably won't work, but hey, I tried.

Question - Can I take a week off without losing all my strength?

Generally, it is HIGHLY DISCOURAGED for beginners to take a day off of scheduled training, let alone a full week. The initial months of training are where you lay the foundation for strength development and conditioning. Usually there won't be a real reason to avoid training, the reasons end up being personal in nature. If you are dedicated to progress and you really want to get bigger and stronger, then don't blow off even 1 single workout, let alone an entire week. If you are making consistent (even if it is slow) progress in your training poundages while maintaining proper form/technique, do everything you can to NOT miss a workout.

Eventually you will get sore or tired, or progress will stop coming along, or your family will be coming up on a vacation or some such. If this is your situation and you know you won't be able to train for that week, then see the sections on "deloading" and overtraining for further information.

## **General Questions, Part 2**

Question - What is dual factor periodization? I don't understand this stuff.

Understand that the necessity for dual factor periodization is A LONG WAY OFF! You are either a beginner or an intermediate. This information is provided FOR INFORMATION PURPOSES ONLY. It is NOT provided as a way for a beginner or intermediate to train!

With that understanding, we have to define a few terms first as they relate specifically to this subject.

Fitness - the resultant physical ability of the body to adapt and respond positively to external stress

Fatigue - The decreased capacity or complete inability of an individual or a bodypart to function normally because of excessive stimulation or prolonged exertion - note fatigue can be very temporary as a result of acute stimuli (i.e. biceps get fatigued from a set of curls) or fatigue can be systemic and cumulative (i.e. the body and its systems are fatigued from hard training over a period of weeks/months)

Performance - the degree of excellence resulting from physical activity, i.e. your ability to bench/squat/dead/chin/row, etc (remember, we're talking SPECIFIC to weight training here) or, for bodybuilders, the body's ability to demonstrate muscularity

Overtraining - The act of training too often/too heavy/too long, which causes the body's recuperative systems to become overwhelmed so that you can no longer recover from training. Performance is DRASTICALLY reduced, as a result, as the body cannot combat what proves to be excessive and chronic fatigue.

Overreaching - the planned process of inducing mild systemic overtraining followed by a planned period of systemic fatigue reduction, with the purpose of dramatically increasing performance

Please note, this is for information purposes only. As a novice or even an intermediate, you simply will not need this type of extreme planning in your programming. Now then, onward and forward..

Dual factor theory, simply put, involves planning your workouts with the knowledge that fatigue and fitness both affect performance. As you train, you build up your fitness level. Imagine if you were Wolverine...you could train several times a day, everyday, and get stronger and faster constantly. Your fitness level increases, and for some time, your performance level increases as well. You are more energetic, you don't get sore as often, you become stronger/leaner/faster/more muscular, etc. Life is good!

However, we AREN'T like Wolverine, and fatigue reduces our ability to train at peak performance. As a result, we train for a period of perhaps 1-2 hours, then we take a day (or more) to rest before training again. The purpose of the break is to reduce fatigue to a level which allows us to train again at (or near) peak performance, be it the ability to bench 5 more lbs or the resultant ability to demonstrate muscularity.

Over the course of weeks (and possibly, for beginners/intermediates/genetic misfits [Hola, I'm talking to you here!] months) your training results in an increase in fitness, but it also results in the systemic accumulation of fatigue which begins to overwhelm the body's recovery mechanisms. Anyone with experience who has trained for a period of time and then begins suffering from the symptoms of "overtraining" can attest to this. After anywhere from 4 to 12 weeks of hard, intense, consistent training, most people begin to suffer the classic symptoms of overtraining, i.e. loss of appetite, weakness, achy joints, extreme fatigue, problem sleeping, as well as the annoying and frustrating strength deficits in the gym.

You are overtraining. Sounds pretty bad, doesn't it?

Except.... overtraining is a BEAUTIFUL thing!

Why? An easy correlation can be made to a guy who runs

If dude runs 5 days per week, 10 miles per day for several weeks, he is going to become extremely fit, but he will get tired due to what we call overtraining. For awhile, he was able to train this way and continue to get faster (increase in fitness accompanied by an increase in performance). However, after several weeks of this, he simply cannot recover from his running, and he gets slower. His fitness has increased, but he has been overwhelmed by fatigue which results in REDUCED performance.

Now, imagine if, after 4-6 weeks of doing 50 miles per week running, he cut back to 3 runs per week at 5 miles per day. Essentially, he just went from 50 miles weekly to 15 miles weekly.

He's still running, and one could argue that, because he's running only 5 miles every other day during the week instead of 10 miles daily, he's probably running a lot faster than he was if he was still doing 10 miles. He lowered his overall volume and workload (total miles ran) and frequency (days running per week) but upped the intensity (his running speed during the 5 mile is faster than his running speed during the 10 mile)

Because he spent weeks accumulating tons of fitness from his hard workouts, these 15-mile weeks where he runs 3x per week are like a walk (or cruise!) in the park for him. His fitness level was accustomed to handling 50 miles per week, but now he's only running 15 miles per week.

As a result, the fatigue that also accumulated during those 6 or so weeks of 50-mile running is now able to dissipate, even though he's still running each week. Hear what I'm saying...he drastically REDUCED his training load, yet he IMPROVES his performance! He cut back on volume and frequency, and now he sees increases in his athletic performance because fatigue dissipates and his fitness is allowed to "show through". Because he is still training, he isn't becoming deconditioned, so to speak, but he is training easier and less often, so his drastically increased recovery ability, garnered from months of hard training, is able to help him recover from the reduced (But still challenging) intensity and workload.

You can be in great shape, but if you're flippin' tired, you can't perform that well. Unfortunately, it takes ALOT OF HARD WORK over a period of time to get into great shape, and that hard work causes fatigue to accumulate.

Check the stupid picture/graph I drew. It represents "general fitness level" with a blue line and "general fatigue level" with a red line, with "performance" being the green arrow drawn between the difference. As you exercise, your general fitness level increases, as does your fatigue accumulation. Unless you are a Mentzer-drone, you train more often than 2 or 3 times per month. As a result, fatigue WILL accumulate (and this is a GOOD thing!)

The harder you work, the more your fitness goes up, but it is accompanied by an increase in fatigue accumulation (Loading/accumulation phase). How you perform is not based SOLELY on your fitness level, but it is based on a (very non-mathematical, but rather theoretical) equation that basically states:

"Performance = Fitness - Fatigue"

Put simply, your performance will be dictated by your level of physical fitness, coupled with how tired you are.

Your FITNESS might dictate that you can PERFORM a bench of 300 lbs, but because you're FATIGUED (tired), you can only PERFORM a bench of 250 (random numbers chosen purely for illustrative purposes)

Eventually, you get to the point where you are thoroughly busting your ass and you are starting to see that fatigue overtakes you (overreaching/overtraining phase). At this point, fatigue has "won" (albeit temporarily) so many trainers will just quit for awhile (a week, sometimes weeks, sometimes several months). This is the ultimate in "missed opportunities".

The thinking man's trainer decides to take advantage of this by PLANNING to do this, using "Dual Factor periodization". He improves his fitness using increasing levels of volume and/or weight and/or frequency and once he notices that fatigue has overtaken his body's recovery ability, he drastically cuts back on his frequency and/or volume and/or intensity. This allows for an active rest, so fatigue dissipates. however, he is STILL TRAINING, and his fitness levels continue to climb (or at least stay the same) while he 'rests'. Fatigue dissipates, his fitness level stays the same or improves, and performance shoots through the roof.

After a period of time...perhaps a "cruise" of 1 or 2 weeks, or perhaps an "active deload" of 2-3 weeks, or a "strategic deconditioning" period of 10 days, you are still "in shape" because you've been training, but you are well-rested, and you are ready to attack the weights again.

Hopefully all that babble made sense. If not, check out the following links:

Dual Factor Theory  
Planned Overtraining

Hopefully they will explain what I failed to make sense of (never end a sentence with a preposition).

- How much weight should I use?

Question - The first set seems really easy. Should I add more weight for the next few sets?

This really depends on the individual. As a newb, your ability to properly guesstimate the amount of weight you need for your first workout is going to be pretty piss-poor. Usually anywhere from 5-15% below your best 5-RM is reasonable for someone who has an experienced eye watching them. An unconditioned novice will require a greater drop for their 3x5 than a conditioned athlete who is inexperienced with weight training. If you are training by yourself, you'll probably want to start with closer to 10-15% less weight than your 5-RM.

Assuming you have calculated this, and you do your first few workouts progressing in weight with each workout, if you get to a workout where the first set of 5 feels stupidly easy,

1st - Make sure you counted the weight properly (oh yeah, adding a 5 to each side means I add 10 to the total weight, not 20)

2nd - Make sure you have added 5ish pounds to the press/row/clean or 10-15 lbs to the squat/deadlift from your previous workout

If that is also true, then just keep the weight, do your sets, and make a mark in your notebook to increase the weight next time by perhaps an extra 5 lbs above what your normal incrementing is.

in other words, if your last workout was 200 lb squats, and this workout, 210 lbs felt stupidly easy on the first set, do your other 2 sets with 210, and write in your notebook "Use 225 next time".

It is better to slowly and progressively add weight than to pile it on like a madman. Take your time, growth takes time. If you rush it, you invite injury and halted progress.

Question - Is it better to use heavy weights and "loose" form or lighter weights and proper form?

If you cannot do the exercise properly, then you are using too much weight, period. Cheating is a technique that you might see some professional bodybuilders use, and even some advanced trainees as well. However, cheating is a technique that, oddly enough, requires quite a bit of knowledge to properly apply.

Until you can answer this question for yourself in a logical fashion, you should avoid cheating. There is a time and a place for a bit of "body english" in your exercise execution, but you need to find this answer out for yourself through experience. As long as you need to ask this question, then the answer is always "use the lighter weight"

If I deadlift a lot of weight and bench a lot of weight, how heavy should the dips and hyperextensions be?

Honestly, it doesn't really much matter. The dips and hypers (and chinups and arm work) are all accessory work. They are unnecessary, they are additional fluff that can make the pot sweeter, but they aren't something to obsess over.

Use enough weight with the dips and hypers so that you can get a training affect, but DO NOT, under ANY circumstances, add so much weight that it interferes with your next workout. Usually, most novices will NOT need much in the way of the chins, dips or arm work or especially hypers, as the lower back gets hit pretty hard with the squats, deadlifts, rows and power cleans. After a month or maybe more, the body will probably

be able to tolerate the increased workload, and some additional work such as this is possible and perhaps even desirable.

Add weight judiciously. Add weight carefully. Add weight slowly. A little at a time this workout, a little at a time next workout, small increments. If you are not sure if you should add weight (or if you are not sure if you should add the accessory exercises) then DON'T. You probably don't need the extra weight yet.

Question - How can I add weight for dips, chinups, pullups, pushups situps, and hyperextensions?

For dips and chinups, get a dip belt  
For pushups, stick some weight in a backpack.  
For situps and hypers, hold weight across your chest/back.

Question - Where can I get fractional plates so that I can go up in 2 and 3 pound increments? All I have are 2.5lb plates

<http://store.yahoo.com/workoutideas/hagrwifeolpl.html>

<http://www.prowriststraps.com/inc/sdetail/36737>

<http://www.hypertrophy-research.com/...croweights.pdf>

Question - I squat way more than I deadlift, what gives?

Normally proportionated people with balanced development will always deadlift more than they squat.

ALWAYS.

If you squat more than you deadlift, then 99% of the time, the answer to this lies in one of the following:

- 1) You aren't squatting deep enough
- 2) You aren't squatting deep enough
- 3) You aren't squatting deep enough
- 4) You aren't squatting deep enough
- 5) You aren't squatting deep enough

If think you are squatting deep enough, then chances are good that one of the following solves the mystery:

- 6) You aren't squatting deep enough, no matter what you say (post Videos?)
- 7) You need chalk
- 8) You hate deadlifting because you're a wussy

- 9) You hate deadlifting for some other reason, but you're probably a wussy
- 10) Your grip sucks

Yes, I'm being funny. However, it is biomechanically impossible for an injury-free individual of balanced development to squat more than they deadlift without excessive lifting equipment assistance.

PERIOD.

If you really do squat more than you deadlift, and you honestly have trained both with equal intensity and effort, then I'd drop an entire paycheck that you simply haven't evaluated yourself honestly.

If you have posted a video of your squats, you own chalk, your grip is strong, and you like deadlifting, but you still squat more than you deadlift, it is probably one of the following:

- 11) You have very small hands
- 12) You have insanely stumpy arms

#11 is common in very short, stocky women. Short = small hands, stocky = short fingers.

Guys? I don't want to hear your excuses, unless you have injuries. Just admit you're being a puss with the deadlifts and move on. ;)

- What about sets and reps?

Question - Can I add sets or exercises to this program? I think I should do more.

You can do anything you want to do. You can squat on a swiss ball, you can bench monkeys wearing pantyhose, you can pick your nose and wear a cockring, it doesn't really matter to me. However, if you decide you're going to add a bunch of stuff to the program, chances are good you will screw it up.

Why am I so confident? The fact that you would ask a question like this indicates that you lack experience with weight training because, if you were experienced, you wouldn't ask this question in the first place. You'd simply adjust it as your experience dictates.

Originally Posted by Mark Rippetoe, pg. 113-114, Practical Programming

*Since the trainee is both inefficient and unadapted, only a few basic exercises should be used, and they should be repeated frequently to establish the basic motor pathways and basic strength.*

Give the base program a shot for a few weeks before you start screwing around with it. It is designed so that initially it will be a bit easy, but as time progresses and you set several PRs (personal records - i.e. you are lifting more weight now than you were a few weeks ago), the program becomes very very challenging. You don't need to add more sets or exercises to the program yet.

Question - Why lower reps on the main exercises and higher reps for the accessory exercises?

The discussion of "why 5 reps for the main exercises" is covered in the "Why only 5 reps, doesn't that build strength and not mass" question.

Why 8 reps (or higher) for the accessory exercises?

Because there is no reason, on a program such as this, to do heavy 5-rep sets on dips and chins and hypers and curls. Your heavy work is done with the big 5 exercises. Give your joints a break, and help promote conditioning and overall development by going a bit higher on your accessory exercises.

Yes, that means you shouldn't be maxing out on your curls :rolleyes:

Why 1 set of deadlifts, 5 sets of powercleans and 3 sets of everything else?

The "3 sets, 5 reps of everything" is a basic starting point for newbs which works for most major primary exercises. 3 sets creates enough of a stress on the body so that homeostasis is disrupted, yet the workload remains tolerable, even for someone who is unfit and untrained. For the novice, 5 reps generally allows for the best possible mix of consistency in strength and exercise execution, as well as fatigue production.

However, it is recommended to do 5 sets, 3 reps apiece, of power cleans, rather than 3 sets of 5. The reason lies in the nature of this specific exercise and it's technical nature. Fatigue is not the primary goal during the clean, rapid force generation and technical accuracy is. Because the exercise is the most mechanically difficult exercise to perform and it involves a tremendously large # of muscle groups, even moderate fatigue of the supporting musculature can have a prominently adverse affect on the trainee's ability to perform the exercise at all, let alone correctly.

Lower rep sets are more appropriate once the trainee is able to perform the exercise with a base level of competence. Unlike most standard exercises in bodybuilding and strength training, fatigue is NOT the goal. Exact technical accuracy in exercise execution is far more important and fatigue is neither beneficial or even appropriate. Sets with lower repetitions, such as 1, 2, and 3 reps per set, are more successful at ensuring the lift is worked properly and that force generation is even and consistent.

Deadlifts are on the opposite side of the spectrum. Of all multi-joint exercises, deadlifts may possibly be the easiest to perform correctly with the least amount of instruction.

Aside from a few pointers about back position and grip, the exercise is, technically, incredibly easy because it is so natural. The 3 primary muscle groups used in this exercise, the glutes/hips, the thighs, and the back, are the 3 largest and most powerful muscle groups in the body. Additionally, the exercise is performed through what amounts to a somewhat reduced ROM and the hips and back are held in a mechanically advantageous position. As a result, tremendous poundages can be hoisted, sometimes by even the rankest of novices. Since this exercise is performed AFTER squats, and since squats can fatigue many of the same muscle groups, only 1 working set of deadlifts is required to achieve an appropriate training affect, and for most novices and even many intermediates, only 1 working set of deadlifts will be required to maintain steady progress in the exercise.

Question - Why do 5 reps for a set, doesn't that only build strength, not mass? Can't I do 8 reps per set?

The general idea that 1-5 reps builds power and strength, and 6-12 reps build muscular mass is a pretty widely held notion. Arguably, this statement is correct in many cases. However, we must once again consider our target audience. The untrained novice will be able to maintain better technique and more even and consistent force production with less reps in the same set because fatigue will become less of a factor (as will the lack of the almighty Jane Fonda burn!) Strength is built with 5 reps, and for a novice barbell trainee, strength is all that matters for his development because it leads rapidly to mass accumulation (assuming diet is in order).

Granted, the newcomer wants 'teh big biceps' and wants to get a pump like Arnold and wants a rippling 6-pack, and he wants to do all this while doing easy exercises and eating chocolate cake. Unfortunately, that is not possible, and in order for a novice to build his musculature, he MUST develop a base of strength before moving on to "specific hypertrophy work". The heavier weights that 5 reps per set allows means that the trainee will be able to more effectively load his skeletomuscular system. Since a newb really doesn't lift with anywhere near what his true strength and recovery would allow due to lack of motor skill and conditioning, the lower reps and heavier weight will do far more for him than "the pump" ever could.

Will this program work if you use 4 reps instead of 5? yeah, probably. What about 6 reps per set instead of 5? Again, yeah probably. Even 8 or 10 reps will work because, after all, we are talking about a newb here, not a highly trained athlete with specific goals. Novices tend to suffer significant form breakdown after several reps, and 5 allows for a relatively brief, though challenging and productive set. many novices suffer severe form breakdowns on the last reps of an 8-rep set. Technique and lack of motor skill are the primary culprits, and anytime you reinforce poor form by repeating it, as an 8-rep set frequently does for a novice, then you are setting the trainee up for failure.

"Everything works, but some things work better than others."

It is Mark Rippetoe's opinion, and the opinion of countless knowledgeable and successful strength coaches, that somewhat lower reps (4-6) and the resultant base of strength that is developed will do more for a novice than higher reps and the "pump effect".

In other words, 8 reps will probably work just fine, but in the long run, you won't progress as fast as you would if you worked the program as it is written, with sets of 5 repetitions.

Since Mark Rippetoe probably doesn't own stock in "5 repetitions", and doesn't stand to benefit financially from promoting 5 reps instead of 8, it would be wise to accept the experience of someone who has been training for over 3 decades, and has been coaching youths for nearly as long. 5 reps per set isn't magic, nor is it voodoo. It is, however, effective, especially for novice trainees and as such is the recommended rep scheme for the majority of exercises.

Originally Posted by Mark Rippetoe, pg. 118, PP

*Fives seem to be close to optimal for the novice; they effectively stimulate strength gains and other forms of progress, without producing sufficient muscular or neuromuscular exhaustion to cause technique deterioration at the end of the set.*

# Nutrition and Supplements

## General Questions

Question - I would like a detailed description of exactly what I should eat and when

Take it to the nutrition forums. A detailed discussion of nutrition and supplementation belongs there, not here. It is beyond the scope of this FAQ

Question - What supplements should I take while doing Starting Strength?

Vitamins, minerals, Omega-3 fatty acids (fish oils), and a whey protein isolate or concentrate supplement are all good products for any trainee to take.

Creatine and taurine are quite helpful and quite cheap but not necessary. Stay away from pro-hormones, NO-X supplements and anything that promises to "add slabs of muscle". Keep it simple for now, you don't need to spend the \$\$\$ on something that won't make that much of a difference since, as a beginner, you will "add slabs of muscle" anyway.

Diet and training are 95% of the equation. Supplements make up about 5% of the equation. For a beginner, it's even less. Don't obsess about supplements. Obsess about consistency in your training and consistency in your nutrition.

Question - Generally, how should I eat?

I am NOT going to get into minutiae and specifics about this subject, because there are as many opinions about "how to make a fat guy lean" as there are fat guys on the planet.

Go here to calculate your BMR. This calculator assumes:

That you are not inordinately fat or slim, muscular or weak, athletic or untrained

The biggest problem with this and just about every other BMR calculator on the internet is that they do NOT take lean body mass (LBM) into account. As such, they provides a "bell-shaped curve" answer. In other words, it'll get the average guy or gal pretty close, but if you are noticeably large or small, athletic or untrained, you will get skewed results.

An easier way, and one that is about as accurate:

If you are skinny or you are a teenager, multiply your bodyweight by 20. If you are a skinny teenager, multiply it by 22.

If you are a chubba bubba and you want to drop blubber, you can probably get by with somewhere between 12-15 calories/lb of bodyweight, depending upon how old you are, and how long you've been chubby. Chubby's who are extremely strong naturally (the stereotypical "big Samoan mofo") will have faster metabolisms because of their natural base of strength, as will chubby teenagers. If that's you, err toward the 15. If you're an old fart like me, check what 12x does for you.

Teenage athletic types will probably be able to eat whatever the hell they want. If you want to get extremely strong (football linebacker) and you want to gain weight, shoot for the 20-22x. Otherwise, shoot for 18x.

Weigh yourself after your morning dump. Note this weight. Weigh yourself after a week of a controlled nutrition plan, and see what the difference is. If you've gained a lb, then you are approximately 500 calories above your base level daily, assuming you ate the same # of calories each day. It takes approximately 3500 calories above maintenance to add a pound of bodyweight in a week ( $3500 \text{ calories} / 7 \text{ days} = 500 \text{ calories/day}$ ). This is NOT 100% IRONCLAD, but is a pretty easy and cheap way to get the ball rolling.

If you maintained your bodyweight, then you are right at your BMR. If you lost a pound, then you are 500 calories under your BMR.

From there, adjust your calories for your weight gain/loss goal. +500 kcal daily to gain 1-lb weekly, +1000 to gain 2-lb weekly (don't do this if you're over 25, you'll get fat), +1500 if you want to gain 3-lb weekly (don't do this if you aren't still growing in height, you will get fat, unless you are a mutant)

Skinny dudes probably will want higher carb and fat levels, and can shoot for about 25-50-25 for their protein-CHO-fat ratios. This is NOT exact! Skinny dudes don't need to follow the "super-high protein" type diets. You simply won't build muscle all that fast. You'll need the carbs and especially the fats to keep your body from catabolizing muscle tissue to use as fuel, just make sure you have a steady supply of nutrients entering your body during the day. NO SKIPPED MEALS!!!!

Chubbies will want lower carb levels and higher protein levels. give 50-30-20 or 50-25-25 a try and see how that works for you. Again, no skipped meals.

Natural mesomorphs (i.e. athletic types, those who are naturally pretty strong and lean) can probably do best (or do real well) on a diet that is somewhere around 40-40-20 of protein-carb fat. To be honest, almost anything will work for these guys, as long as they have their caloric needs met throughout the day.

Almost everyone can do pretty well on a 30-40-30 or a 33-33-33 type diet as well, assuming the carbs are clean (specifically this applies to chubbies).

Are these absolutes? No, of course not; they are starting points. Use them as such. If you know that you don't respond well to those same ratios, then great! Congrats. You already know what to eat, why are you reading this? :p

Let's do the calculations for a skinny 150-lb teenager.

150lbs x 22kcal/lb = 3300 calories.

25% protein =  $.25 \times 3300 = 825$  calories. 825 calories divided by 4 calories/gram ~ 205 grams PRO.

50% CHO =  $.50 \times 3300 = 1650$  calories.  $1650 / 4 \sim 410$ -415 grams CHO

25% fat = 825 calories.  $825 / 9 \sim 70$ -75g FAT.

That is the BASELINE. You will almost definitely want to add to this, especially because you have to account for the extra calories you are burning during training. Chances are good skinnies will want to add to the carbs and especially the fats.

Eating a ton does NOT mean you're absorbing a ton. You have to properly absorb your calories in order for them to be of use. If you are farting and crapping yourself every 10-15 minutes, then you added too many calories too fast. Scale back a bit and work your way back up. Too much too soon can overload your system.

You also may have a food allergy (wheat gluten and dairy lactose are 2 major culprits here) There are volumes upon volumes written about diet, go read up and learn more for yourself.

Question - What should I eat before, during and after a workout

Go here and read up. The man knows his stuff.

Question - I've been doing this program for a month and I've only gained 2 lbs. What is wrong?

Eat more.

Period.

It doesn't matter what program you are on, weight gain is ENTIRELY dependent upon how much you eat.

If you don't eat enough, then you will not get heavier, simple as that. The weight training program doesn't determine how heavy you get, it only determines how much of that "added heaviness" is muscle and how much is fat.

Let me say this one again so that you understand.

**NUTRITION IS 100 PERCENT RESPONSIBLE FOR WEIGHT GAIN**

Your training plan will help determine how much of that weight gain is muscle, and how much is fat.

Question - Why do I need to drink so much milk? What kind of milk should I drink?

Why milk?

1) It is VERY easy to ingest. Most kids can down a ton daily with cereal, pop tarts, ice cream, protein drinks, etc, and for a skinny kid who is growing vertically as well as horizontally ( yeah puberty!), this is a VERY easy way to ensure you get your calories.

2) Protein, yeah protein...tons of high quality protein, as well as calcium. 1% milk will have a nearly ideal macronutrient profile for a growing kid as well.

Does this mean you HAVE to drink 1 gallon of whole milk daily? No. Is it recommended? Well, it sure is effective for adding necessary protein and calories while growing. If you are worried about the calories and fat, then drink skim. Note that Hola Bola, one of the best built nannies on bodybuilding.com, drinks damn near a gallon of 1% or 2% daily. Granted, he is enormous, and has the resultant metabolic "advantage" of having over

200lbs of LBM, but he is also 25, not 15, and he isn't growing vertically as well as generally filling out.

Skinny dudes and relatively lean, athletic dudes can probably get away with drinking 1% or 2%. For those painfully skinny early teens, whole milk. Chubbies should stick to skim milk, obviously.

Milk isn't magical, although it is quite effective. Keep your calorie totals in mind when figuring out how much milk to drink.

Question - If I eat too much protein, will I end up with kidney stones?

Probably not. If you have healthy kidneys and you drink the necessary 1 gallon (preferably more - up to 1.5 gallons) of water a day, you should not have any problem whatsoever with your kidneys. Get your calcium, drink your water, and all will be well.

## Chubbies

Question - Can I do a cut diet and do cardio while on Starting Strength?

Ideally speaking, any initial weight training will be done with a minimum of cardio and while eating a caloric excess. This will allow for optimal muscle growth during the time in your training "career" that is optimal for that muscle growth. Less cardio = more calories for growth, hypothetically speaking.

The need for cardiovascular exercise varies from person to person, and from goal to goal. Very few definites about weight training, bodyfat loss, muscular gain and cardiovascular exercise type/intensity/duration and their interrelatedness exist. However, the following can be stated unequivocally:

\*\*\* Muscle builds most rapidly when adequate supplies of micro- and macronutrients are available at all times. This rarely happens unless you are eating a caloric excess.

\*\*\* In order to burn bodyfat, you must take in less calories than you need. This generally will result in you taking in less micro- and macronutrients than you need to build muscle, even if you take every supplement on the market.

\*\*\* Burning bodyfat while gaining muscular bodyweight is confined to mutants, younger (i.e. teenage) males, those who are new to the iron and those who have been previously well-trained, but are now out of shape and are relying on "muscle memory" to work a little magic while they get back into shape.

\*\*\* Males will have a SIGNIFICANTLY easier time increasing their lean mass while reducing bodyfat than women. Younger guys will also have a significantly easier time of

this. In fact, it is almost too easy for a younger guy (under 25) to make this happen for several years, and for a teenager, it's WAY too easy.

Case in point...when I first got very serious about weight training, after a few years of farting around, I weighed 185. 2 years later after very serious weight training, I STILL weighed 185, but from the neck down, I looked like an entirely different person. My Mom accused me outright of using anabolic steroids, as did several of my friends (this was almost 20 years ago, before the general public really knew about steroids). I had added a good 500+ lbs to my squat, bench and deadlift in those 2 years, yet I hadn't gained a single pound. My chest and shoulders grew by about foot each, my waistline dropped by about half a foot, and my arms and forearms were almost 2x as big.

Yet I weighed the same. That, my friends, is what happens when a young male with the proper bodytype (I am a meso-endomorphic type) lifts like a lunatic and eats solid and clean (and everything in between.... ;) ). I was chubby when I started, and I was pretty damn lean when I was "done". So in essence, I managed to find a balance of calories-in versus calories-out that allowed me to pile muscle on while convincing my body that all that excess bodyfat I had stored up as a semi-lazy teenager wasn't necessary, but the muscle I was piling on WAS necessary.

My basic advice to ANY teenager who starts lifting weights is to do the following

- 1) Clean up your damn diet. Dump the chips, get rid of the french fries, lose the Pepsi/Coke/Dr. Pepper, and stop with the beer and pretzels on the weekends.
- 2) Eat every 2 hours. It doesn't need to be a lot, but make sure you have a good 20-40g of protein in each meal, and make sure you eat some complex carbs and some fats with each of those meals. Don't stuff yourself, but eat good solid food or if need be, drink a healthy protein shake...not one of those "megaMass 4000". They are just piles of liquified shit that have 400g of sugar per serving and send your colon into a spastic fit.
- 3) If you can manage to eat cleanly for a month straight, while taking in sufficient protein, carbs and healthy fats, you will add muscle at a rate that will shoot your metabolism through the roof. Just by eating clean, your body will become very efficient at burning bodyfat, and you won't NEED to diet or do an excess of cardio in order to burn bodyfat. Just eat healthy, lift like your life depends on it, and do some light cardio for your health, and the bodyfat will melt away.
- 4) As a teen, you should REALLY take advantage of the time when you can add muscle the best. Dropping 10 lbs of bodyfat is easy compared to adding 10 lbs of muscle. Ask anyone who has been around the iron game for any period of time. It's much easier to lose bodyfat than to add muscle. The more muscle you have, the EASIER burning bodyfat will be. So take this time to eat clean and add muscle, and wait until late spring before you start worrying about your abs.

So, to sum it up, do a bit of cardio for health, clean your diet up, and lift hard and heavy. You will burn way more bodyfat than you can imagine by doing this.

Here is a specific diet that I used with great success for recomp (bodyfat loss + strength gain). I'm a natural fatty with a good bit of muscle, and I was getting back into shape. I was 5'9, ~15-18% bodyfat, 215ish lbs.

0600 - 25g Isopure + water + 4g creatine + 4g taurine  
0630 to 0730 - cardio  
0800 - 1/2c slow oats + 25g whey + 25g casein + 1c skim milk  
1030 - 4-6 oz dead animal + "dinner starch" + veggies  
1300 - 1c skim cottage cheese + 25g whey + 25g casein  
1500 - preworkout drink (50g whey)  
1530 to 1700 - lift  
1700 - 50g dextrose + 40g whey + 4g creatine + 4g taurine  
1700 - 4-6 oz dead animal + dinner starch + veggies  
2100 - 1c skim cottage cheese + 2T ANPB + 2c skim milk

2-3g fish oil caps with each non-workout associated meal. On days I didn't lift weights, I cut the 1700 dextrose out. The meat sources were either 95% lean ground beef browned, rinsed and drained, round steak, turkey, chicken (breast AND thighs), and fish (salmon or tuna or perch). "Dinner starch" was either 1/2 yam, 1/2c lentils or 1/4c brown rice. If I had a coffee grinder, I wouldn't have bothered with the dextrose, I just would've ground up some oats, cooked them in water, and added them to the protein drinks pre and post-workout. That is definitely adviseable.

I varied the exact meat and starch sources but the overall serving size was measured. This provided enough variance to keep calorie totals fluctuating enough to prevent adaptation, and it also kept things interesting. Some days, I would have the salmon, steak and ground beef along with the lentils. Those days were higher calorie totals and protein. Other days, I ended up with chicken and turkey breast along with lean fish, so my totals were lower.

The results were that in 4 months, I went from 211 (severely dehydrated) to 212 with a drastic muscle mass and strength increase, coupled with a 4" loss in my midsection measurement. Also note that I went from a dehydrated 211 to a 212 using 8g creatine + 8g taurine daily, both of which are associated with cellular volumization. In other words, you usually gain a lot of weight. The recomp probably allowed me to switch out a good 5-8 lbs of muscle for an approximately equal amount of fat.

## Skinnies

Question - I'm skinny and I want to get huge, what should I eat?

You are going to need to eat like mad. Unless you eat junk food and drink Coke and Pepsi constantly, you don't eat enough. As Mark Rippetoe said, he tells his kids that they have to drink a gallon of milk each day and get kicked out of an all-you-can-eat buffet at least twice weekly.

Do you have the ability to eat 3500-4000 calories EVERY day without consuming tons of junk food? Nothing wrong with eating pizza and a double cheeseburger (or two!) every day, as long as you keep lifting hard.

Dump the candy, soft drinks, donuts, cookies, etc....stuff that is high in calories with no protein or nutritive value. You want \*quality\* calories.

Convince Mom to buy seven pounds of the 93% ground beef, and finish off an entire Hamburger Helper box with a pound of ground beef daily, as well as 2 or 3 peanut butter and banana sandwiches and as much milk as you can stomach. Don't like hamburger helper? Go for a box of mac-n-cheese along with your ground beef, but put down 1 lb of beef and 1 box of starch per day at least. Don't like mac-n-cheese? Make a bunch of spaghetti noodles or some rice or corn and peas, baked beans, potatoes. And eat dead animal. Lots of it. Don't want to eat a pound of ground beef? EGGS! Eat them! All of them!

The grocery bill is going to knock mom for a loop. Do your chores, wash the dishes, keep your room clean, etc, and Mom probably won't freak out too much.

Make no mistake. The best weight training program will make you strong, but it won't make you big. Weight lifting does NOT make you big. It makes you strong. Eating properly is what makes you big. If you eat a ton of calories without the weights, you get fat. Eat a ton of calories WITH your weight/strength training, and you get big, strong muscles.

Follow me here...your bodyweight is determined by diet (how much you eat). The proportion of fat and muscle you have is determined by your training.

Here is a sample 4000(ish) calorie diet, that is quite clean. It is approximately 25/50/25 for calories.

breakfast ~ 820 kcal - 52/103/22

2 egg whites + 2 eggs = 22g pro, 3g CHO, 14g fat = 333 kcal

1.5 cup oatmeal = 15g pro, 78g CHO, 3g fat = 295 kcal

2 cup 1% milk = 16g pro, 22g CHO, 5g fat = 195 kcal

3 fish oil capsules - 0/0/3 = 27

mid-morning snack ~ 525 kcal - 26/58/24

1 banana = 1/30/0 = 125 kcal

2T All Natural Peanut Butter (ANPB) = 9/6/16 = 200 kcal

2 cup 2% milk = 16/22/5 = 195 kcal

3 Fish oil capsules = 0/0/3 = 27 kcal

lunch ~ 640 kcal - 44/54/25  
4 oz turkey breast - 30/0/1 = 200 kcal  
2 slices whole grain cracked wheat bread - 6/52/3 = 260 kcal  
slice whole fat swiss cheese - 8/2/8 = 112 kcal  
T olive oil - 0/0/13 = 117 kcal

preworkout - 400 kcal - 25/75/0  
3/4c glucose - 0/75/0 = 300 kcal  
1 scoops whey - 25/0/0 = 168 kcal

postworkout - 510 kcal - 50/75/1  
3/4c glucose - 0/75/0  
2 scoops whey - 50/0/1

1 hour postworkout - 642 kcal - 38/91/14  
4 oz round steak - 28/0/8 = 276 kcal  
3/4c (uncooked) Brown rice - 9/79/3 = 379 kcal  
3 fish oil capsules + pile of rabbit food - 1/12/3 - 77 kcal

final meal - 709 kcal - 40/59/32  
1/2c cottage cheese - 15/9/0 = 96 kcal  
1/2c plain yogurt - 15/19/0 = 136 kcal  
2T ANPB - 9/6/16 = 204 kcal  
3 fish oil capsules + sliced banana - 1/25/3 = 104  
1T olive oil - 0/0/13 = 117 kcal

265 pro, 506 CHO, 102 FAT = 4206 kcal total  
26% protein, 51% CHO, 23% fat

As a skinny, you won't really need to eat that clean, but it is to your benefit if you do.

Question - I need help eating that many calories. I don't really like to eat that much "health food", but I want to gain weight. Please help.

Here are a few easy "tricks" that I used back in the day when I was lazy and didn't need to cook for anyone but myself.

- 1) Brown 1-lb. ground beef and/or George Foreman a pound of chicken
- 2) Make a box of macaroni and cheese
- 3) Mix the 2
- 4) Get a jug of milk
- 5) Drink milk and eat the chow
- 6) Makes 2-3 meals

Hamburger Helper - oh hell yeah! Just use 2 lbs of beef, and make 3-5 meals out of it

Peanut butter and banana sandwiches + milk = bulk food extraordinaire

Egg Sandwiches = scrambled eggs + cheese + whole grain bread and salsa = YUM!  
Turbo charged musclechow.

- 1) Stick 4-6 eggs into a skillet, cover
- 2) Let eggs get cooked on one side
- 3) Flip it over carefully, and cook the other side
- 4) Throw it on 2 pieces of toast or bread with salsa

Buy some extra virgin olive oil and take a T of it here and there throughout the day. Great antioxidant properties, great nutritive properties, and helps you get in some healthy calories. Oddly enough, it tastes decent as well.

Keep a jar of All-natural peanut butter and a spoon with you. Eat a tablespoon every hour or 2, depending upon how many calories you need to fill in.

You get the message. Be creative. You're a skinny bastard, have some fun gaining weight while us fatties eat green beans and lentils. You need calories more than you need exact super-health-type foods.

## Athlete

Okay, you guys are the scourge of the training world. You're in a borderline "newb" status for almost your entire training life. Guys like Ed Coan and the majority of the bodybuilders and professional lifters are either natural mesomorphs or primarily mesomorph. You will possibly be able to maintain a linear periodization routine for your entire life. We respect you, but we hate you (we = normal people) because we envy you.

You naturally maintain a lower bodyfat and higher muscular ratio. If you eat too much while training, it will probably go to muscle. If you don't eat enough, you will probably burn a lot of bodyfat.

You suck, but you are blessed. Eat whatever you want, you'll still make progress, and we will all envy you.

Here is an adjustment to the basic skinnyboy (ectomorph) diet I posted earlier. Still about 4000 calories, but more protein

breakfast ~ 645 kcal - 55/77/13

4 egg whites + 2 eggs = 29g pro, 3g CHO, 14g fat

1 cup oatmeal = 10g pro, 52g CHO, 2g fat

2 cups 1% milk = 16g pro, 22g CHO, 5g fat

3 fish oil capsules - 0/0/3

mid-morning snack ~ 713 kcal - 51/46/25

1/2 banana = 1/15/0

2T All Natural Peanut Butter = 9/6/16

2 cup 1% milk + scoop whey = 41/25/6

3 Fish oil capsules = 0/0/3

lunch ~ 500 kcal - 44/54/12

4 oz turkey breast - 30/0/1

2 slices whole grain cracked wheat bread - 6/52/3

slice whole fat swiss cheese - 8/2/8

preworkout - 400 kcal - 50/50/0

1/2c glucose - 0/50/0

2 scoops whey - 25/0/0

postworkout - 510 kcal - 50/75/1

3/4c glucose - 0/75/0

2 scoops whey - 50/0/1

1 hour postworkout - 721 kcal - 77/52/20

8 oz round steak - 56/0/16

1/2c (uncooked) lentils - 20/40/1

3 fish oil capsules + pile of rabbit food - 1/12/3

final meal - 505kcal - 65/46/24

1c cottage cheese - 39/18/0

2T ANPB = 9/6/16

2c 1% = 16/22/5

3 fish oil capsules - 0/0/3

392 pro, 400 CHO, 95 FAT ~ 4025 kcal total

39% protein, 40% CHO, 21% fat

Again, however, you probably won't need to eat that clean.

## Cardio Questions

Can I do cardio for fat burning while on this program?

Cardio is something that should be done by everyone on the planet, just for general health. If you are a chronic chubb-dogg (like me!) then cardio should be a daily habit at least once, sometimes twice a day.

The key is in modulating the intensity and duration so as to positively affect your barbell training, rather than negatively affect it. The chronically chubby will notice a DRASTIC difference in the body's ability to process calories, especially carbohydrates, if consistent cardio training is added to a consistent weight program. Frequently, the chubbage will melt away while the muscle gets packed on. It is a natural characteristic of the endo-meso somatype to be able to add muscle while losing bodyfat if calories are clean, protein is relatively high, and cardio is performed daily. In many cases, adding some cardio will actually enhance barbell progress because of the positive "CHO-useage" effect cardio has on many naturally bulky trainees.

Skinny dudes REALLY need to be careful of this, however. A brisk walk is all that is needed, just enough to keep the heart healthy. Mesomorphs, being the bastards that they are, can probably get away with very little cardio at all, and they will burn bodyfat simply by switching from 2% to 1% milk (Yes Hola, I'm talking about you...bastard!)

The biggest mistake a novice can make is to undertake a new barbell training routine and then add in a ton of high intensity cardio. This will exhaust the trainee far earlier than what would normally occur, and the hindered muscular progress will be reflected in hindered metabolic increases. More muscle = faster metabolism = more calories and fat burned during the day.

Burning calories through exercise is 1 way to get leaner. Adding muscle, which increases BMR, is another. Since the novice will experience the most rapid muscular bodyweight increases, it makes sense for them to focus on barbell training rather than excessive cardio, even if they are chubby.

Originally Posted by Mark Rippetoe, pg. 204 Starting Strength

*A program of this nature tends to produce the correct bodyweight in an athlete...if he needs to lose bodyfat, that happens too...they will notice...looser pants at the waist, legs and hips staying about the same, shirts that are much tighter in the chest, arms and neck, and faster strength increas than their skinny buddies. Their body composition changes while their bodyweight stays close to the same, the result of a loss in bodyfat due to their increasing muscle mass.*

As a personal attestation to this, I got serious about training during my first year of college. As described in various other places, I maintained my bodyweight for the first 2 years of serious training, yet my strength, LBM, and the resulting BMR shot through the roof. I didn't "diet", didn't do a lot of cardio, yet bodyfat melted from my body as muscle accumulated on my frame.

Chubbies need to take advantage of these novice gains. You only have 1 real chance to make this happen. Milk it for all it's worth! Keep cardio to a minimum as a newb, just enough to keep the heart healthy.

Question - I want to bulk but I want to stay in good shape. Can I do some cardio during this program?

Not only can you, you should! However, the emphasis is going to be on LIGHT CARDIO. You must be VERY careful not to overdo this. Start the program with a brisk walk in the mornings on non-training days and preferably some strength-oriented GPP as part of your barbell sessions as described in the GPP post. Increase time/intensity/speed on the cardio/conditioning/GPP in a very conservative manner. Monitor your barbell progress closely. If it seems like your gains slow down as you increase the conditioning work, then drop back on the conditioning!

There are frequently advantages to doing some cardio work while trying to bulk.

- 1) It increases appetite, especially when done in the morning. Makes me hungry like the dickens.
- 2) If done at a low enough intensity, it can help enhance recovery by bringing more blood into the various areas of the body that need it, especially if the exercise contains a very mild or no eccentric component (some ellipticals, bikes, and sled pulling share this similarity)
- 3) Cardio frequently has VERY positive effects on carbohydrate utilization and insulin sensitivity, especially for the chronically chubby.
- 4) Your heart is a muscle too, take care of it!
- 5) Good cardiovascular conditioning can ensure that rest periods between sets aren't unnecessarily long. Moving quickly between sets, assuming no loss of strength occurs, can significantly enhance the overall training effect.

In the end though, consistent and very close monitoring of barbell progress is of utmost importance. Keep in mind that the goal is to add muscular bodyweight and strength. As long as recovery between training sessions is complete, then the cardio can and should be continued. If it interferes with progress, then it needs to be reduced or dropped entirely.

What is GPP and how do I incorporate it into my training routine?

GPP stands for "General Physical Preparedness", and it is a type of exercise that provides for strength development and conditioning. Start with once a week for no more than 5 minutes after a weight workout. As conditioning improves, you can add a minute per session up to a (probable) max of 10 minutes per session, once per week. You can add a second GPP/conditioning workout during the week, but start this additional workout easy (5 minutes) and work upward in time as described above. Once the trainee hits 10 minutes per training session, add weight to the sled, swing a heavier sledge/axe, or do what is necessary to increase the resistance.

The goal is to use this as a "strength and conditioning" session, in that order. "Faster" or "longer" are not necessarily better, in the context of the program, depending upon their goals. The trainee should get very winded and tired, but he should not be "sprinting" during the training, as this can end up having a seriously negative affect on recovery.

GPP/strength conditioning training workouts can be a very useful adjunct to the trainee's workout program, but extreme care and caution must be taken so that the training recovery rate is not adversely affected. The athletically gifted might be able to do 15-20 minutes 2 or even 3 times weekly with little or no adverse affects. They are mutants. Most trainees will not be able to break 10 minutes once or twice weekly without a negative affect on their strength development and especially (if desired) bodyweight increase. Like accessory exercises, GPP/conditioning should be used to ENHANCE advancement in the core benchmark lifts (the big 4 - squat, bench, deadlift, press and the row/clean). If it interferes with the advancement in said lifts, then the additional work is both unnecessary and detrimental.

Question - Should I do cardio before weight training or after? Or should I do it separately from weight training?

Depending upon your goals and your exact cardio exercises and methodology, generally cardio is best kept separated from your weight training. The exception is the trainee who does cardio immediately postworkout while drinking a PWO drink.

An additional exception is a "strength-based" cardio program, a.k.a. "GPP" or "Strongman training". It is strength training with a endurance aspect, for the most part. This type of strength training is well-suited for immediate postworkout.

Whatever you do, do NOT do cardio BEFORE your weight training. This will hinder your strength and workout stamina, and that isn't cool at all.

Question - Can I run 5 miles per day while on this program?

Not if you want to recover from your barbell training sessions. Running can be very very harsh on the knee joints when combined with thrice-weekly squatting. Additionally, the catabolic tendencies of distance running contraindicates the use of a daily 5-mile run in conjunction with a strength and mass-building program like the Rippetoe novice workout.

If daily running is a necessity for you, then you will want to consider looking into a barbell program with less leg work.

If, however, you have been running for years (i.e. cross-country runner, marine/soldier, etc) and your body is used to the exercise, then you should be able to work it into your schedule. Understand that excessive cardio WILL HINDER YOUR GAINS.

Question - Can I do HIIT on my off-days?

Not if you expect to recover fully for your weight training. HIIT is fantastic for conditioning and fat loss, but it can dig into recovery when on a full-body routine. The amount of direct leg work in the novice Starting Strength program is rather immense, and HIIT is difficult to perform without hitting the legs pretty hard.

If fat loss is your primary goal and HIIT is how you plan on achieving it, then a different weight training protocol might serve you better.

# Routine-Specific Questions

## VI. Routine-Specific Questions, Part 1

Why so few exercises? Don't I need to hit the muscle from every angle?

Why, when you are an infant/toddler, does Mom and Dad teach you how to walk? Why don't they teach you how to do a backflip first? Why not teach you how to tiptoe through the tulips, or do the watusi? Why doesn't Dad teach you how to breakdance?

We'll assume, for a moment, that Mom and Dad actually know how to teach you to do those things. Why don't they teach you? Don't advanced gymnasts know how to do backflips, can't dancers do the watusi? Why don't they teach you to do those crazy moves that the breakdancer does? Why are they intent on making you take a step first before you start jiggling and jiving?

The question seems stupid, doesn't it? Obviously you learn to walk before you can run, and certainly before you backflip or dance.

Yet new trainees want to trick before they can even stand up properly. 12 variations of curls, at least 5 bench presses involving dumbbells, various angles, and even machines, lord knows how many lat exercises with cables...all of these things end up in the novice's training program, each steps on the toes of the other, and the overwhelming complexity of it all frequently renders progress to zero when it should be flourishing.

Originally Posted by Mark Rippetoe, pg. 114, Practical Programming

*Since the trainee is both inefficient and unadapted, only a few basic exercises should be used, and they should be repeated frequently to establish the basic motor pathways and basic strength....(the) core strength and power exercises develop the foundation of strength and motor control that will allow for later inclusions of more technically demanding exercises, because they utilize all the muscles in the same coordinated fashion that more advanced exercises do*

A novice is, by definition, STILL LEARNING. Once you've learned the basics, then you can progress to the more complex. Until you have learned the basics, progress will be minimal and attempts at such will be borderline worthless.

How will you learn better...by trying to master 20 different new things of varying complexities, and practicing them maybe once per week? Or learning 5 new things of basic complexity, and doing them several times per week? Would a person learning to play the piano learn a super complex song, and practice it once weekly, or would they learn a few notes, and practice them as often as they can? Would a person learning a foreign language try to understand the technical knowledge behind dangling participles and present perfect tenses, or would they learn how to construct simple sentences using a few basic words?

Answer these questions, and you will be able to answer the question which spawned this post.

Why should I stay on the base program as long as possible? Won't I grow better if I get on an advanced pro-type routine, or at least an advanced version of this routine?

Imagine if Wolverine was an avid weight trainee on steroids and 10,000 clean calories per day. He would recover insanely fast, he would have nearly limitless energy, and he would lift weights daily and recover daily, and get stronger daily. That is the ideal (a.k.a. "the dreamworld").

Ideally, you will make "linear progress" on every single weightlifting exercise for your entire weight training career. In other words, you could lift weights everyday, and EVERY time you went into the gym to lift weights, you would be able to use more weight than you did last time, because you would be fully recovered, just like Wolverine on juice. With every single workout, you make consistent progress in strength and size....that is linear progress. Ideally, you would lift weights every single day, the same exercises every single day, and you would be able to make linear progress on these exercises without ending up broken, battered and overtrained. In other words, you be like Wolverine on steroids and a clean 10k calorie diet.

This is the ideal, but it is not something that any human being can maintain for any period of time. The body simply cannot recover that rapidly. On page 189 of Starting Strength, there is a very simple, but very telling graph that demonstrates the "rate of improvement" and "need for complexity" in training graphed in comparison to each other. Initially, the "need for (training) complexity" is very low as the "rate of improvement" is very high. As you near your "genetic potential", the "need for complexity" increases, as your "rate of improvement" slows. It makes sense. The bigger and stronger you get, and the more experienced you are with weight training, the more challenging and complex your training needs to be. But when you just start out, you don't need a whole lot of fancy stuff, just the basics.

So what does all that mean? It means that this program is ideal for someone who is still in a rapid improvement state. As you get bigger and stronger, you will eventually "outgrow" this program. How long do you use it?

You use it until it stops working. I describe this in detail in Section III. The program is, in Rippetoe's own words, "the () novice workout" (Figure 4, page 193, Starting Strength). As long as you are adding weight to the bar in your exercises, stick with the program.

Originally Posted by Mark Rippetoe

*...if progress is being made on these exercises, your trainee is getting stronger and your objective is being accomplished.*

Don't fix it if it ain't broke. Your goal now is to milk this program for all its worth.

The ice skater who is stepping on the ice for the first time doesn't need to be taught how to do twirls and flips and jumps and spins, they simply need to learn how to not fall on their tookus. Nothing fancy, just the basics. As long as their skating gets better each time they step on the ice, why introduce fancy stuff? Once they are obviously ready to move on, introduce advanced ideas to their training.

The iron is no different. If you add weight to the bar, and the bar goes up in the proper path, then you keep doing it because it works.

You can use this program for as long as you are adding weight to the bar, simple as that. Nothing will get you stronger, faster, than linear progress on a simple, high frequency program like this, without some form of chemical assistance.

Question - How long does this workout normally take?

As you progress with your development and you get nearer to your genetic capabilities, your training will, by necessity, become more complex and possibly more lengthy. As a result, your workouts will take longer, because you simply have to do "more stuff"

For a novice who is just starting this program, 20-30 minutes for Workout A and possibly shorter for Workout B, are all that will be needed at first. As you get stronger, you will need longer rest periods. As you add weight to those top 3 work sets, you may need an extra set or 2 per exercise for warmups. As your conditioning improves, you may find it possible and even desirable to add some of the accessory work. As a result, you may end up using a full hour for the meat of the workout in addition to the accessory exercises.

However, for you newbs who do the first few workouts and think "damn, that was easy, I was done in half an hour", don't sweat it, the workout is pretty easy...at first. It WILL catch up to you.

Question - Why does it seem that some people bash this program?

1) HIT Jedi's hate anything that isn't HIT, and several of them have created several accounts that they use to bash anything that isn't HIT.

2) Some people don't know how the hell a newb should train. They freak out when they don't see 2 or 3 variations of "teh bicept curls for teh gunz" and think the training program is garbage, because it "doesn't isolate everything". Many also feel that machines are better for novices, and that creatine is poison. Run, don't walk, away from these people.

and the main reason:

3) Oversaturation - You see Rippetoe workout questions everywhere. Some people who never knew jacksquat about the program in the first place get annoyed when they see the questions all the time, so they irrationally and ridiculously hate the program. It's kinda like hearing a song on the radio all the time that you've never actually listened to, you just have always turned the station within the first 5 seconds of the song starting. After awhile, it gets annoying, especially when some people try to push it on EVERYONE, even if this style of training doesn't suit their goals or experience level. It is a function of both the "know-it-all" mentality that many youths have, as well as the "internet icon" theory of training "expertise", whereby a 15-year old with low self-esteem who is desperate for respect reads some books and declares himself a training expert, despite never having felt 3 wheels across his shoulders. When these internet icons decide to parrot and support a program, those far more knowledgeable get pissed off at him, and come away with a bad taste on their mouths.

## **Routine-Specific Questions, Part 2**

Question - Should I take all my sets to failure?

Failure training is a potentially useful tool, but it is generally reserved for someone who is a bit more advanced. Failure training in the trained athlete can, if used properly and judiciously, be a beneficial technique to help elicit strength and muscle mass gains.

However, failure training for a novice is generally not going to produce the intended effect and is unnecessary and potentially harmful. Training form/technique tends to break down significantly in the novice who is exercising to failure, which can lead to injury. It can also reinforce technique flaws since you will consistently perform improper technique. What you do over and over becomes ingrained in your basic motor function. If you tend to have a shitty bench when you hit failure, the more often you hit failure, the more often your technique is compromised, the more often the improper technique is reinforced.

Additionally, novices have a much greater incidence of asymmetric balance, i.e. "my left arm is stronger than my right arm!" This results in significant asymmetric loading during

pressing and pulling exercises, which can end up shredding a shoulder/rotator cuff or tearing up the trainee's spinal erectors because of an imbalanced load on the spine.

Advanced trainees should use caution when using failure training due to the resultant CNS stress. Planned breaks or 'cruises' are necessary in order to maintain steady progress. This generally won't be necessary in the novice trainee because they simply don't have the strength or workload capacity to outdo their own natural recovery abilities. Intermediates, and especially experienced trainees who are getting back into shape DEFINITELY need to be wary of this, however.

As a result, you should never need to take any of your sets to failure as a novice. You only count repetitions that you complete 100% on your own. If your spotter touches the bar AT ALL, then the rep doesn't count. If your technique isn't solid (i.e. if you bounce the bar off your chest, or don't go deep enough in the squat), then the rep doesn't count.

Your first set should be a slight challenge, your second set a reasonable challenge, and your third set of each exercise should be quite difficult to complete, but you SHOULD be able to complete it with no assistance from anyone else, while maintaining proper technique.

Question - Isn't squatting 3x per week going to be overtraining my legs? Isn't this program going to be overtraining my body as a whole?

No. As a newb, you won't have any problem with this because you are primarily limited by poor technique and lack of efficient motor function. This means that you will be using far less weight than you have the strength to handle.

Additionally, your conditioning is such that you won't be able to stress yourself enough in one session to preclude you actually recovering in time.

Question - How can I train if I don't have 3 nonconsecutive days during the week to train, I can only train M, Tu, Th, F?

NOTE - the following is NOT addressed by Rippetoe in the book. As such, take it as the advice of me, Kethnaab. It is NOT the advice of Mark Rippetoe.

With that in mind....

If you cannot train on 3 nonconsecutive days in a week, then you have a bit of a problem. There are tons of options available to you, I will list briefly a few of them here. Go to the section that deals with "variations to the program" for more info.

If you can only train M-T-Th-F for example, you could do this program on Monday-Thursday (Workout A and Workout B) then do a bodyweight only workout on the weekends. For example:

Monday - Workout A

Squats - 3x5

Benches - 3x5

Deadlifts - 1x5

Thursday - Workout B

Squats - 3x5

Standing Presses - 3x5

Cleans/rows - 3x5

Saturday

Chinups - 3x10

Dips - 3x10

Hyperextensions - 3x10

Abs - 3x5

You could also look into other alternatives, such as a push/pull or upper/lower type setup which is quite easy to fit into a M/T/Th/F schedule.

If you can only train 3 consecutive days, i.e. Monday, Tuesday, Wednesday, and you can't train from Thursday through Sunday, then I'll call BS. You're making excuses. Quit being lazy and figure out a way to get to the gym on those other days.

Question - How fast should I move the bar up and down? What repetition speed should I use? Fast or slow? Should I pause the weights during the motion?

Repetition speed gets a lot of talk, especially from the "Super-slow" HIT crowd. Repetition speed is not something to obsess over. Don't believe the hype about "TUT" (time under tension). It is one of several factors that influence muscular growth and development. The Superslow crowd believes that it is the "be-all/end-all" of training, and will use weights that a 9-year old girl could use, so that they can spend 10 seconds in a slow-motion contraction.

If you want to be weak and slow, then by all means, have at their training methods. However, if you want to be strong, powerful, and quick, then you will be better served by a program that encourages this type of development. Training is both general and specific, and if you specifically train in a slow motion method, you will get very good at being very slow.

Now, specifically onward and forward to the exercises.

The eccentric (or lowering) portion of the squats, presses and rows (Deadlifts and cleans will be discussed separately) should be "controlled". Not excessively slow, but under control. It should not look like you are dropping the bar, but you shouldn't spend all day lowering the weight.

The concentric (or raising/lifting) portion of the exercise should be controlled, but fast. Attempt to accelerate the bar during your heavy sets. Doing so can improve force production/generation and can result in greater/faster/better strength gains. Note that it is a CONTROLLED ACCELERATION.

Acceleration != Heaving  
Acceleration != Swinging  
Acceleration != Bouncing

(!= is the same as "does not equal")

When you perform a heavy set of the bench press, you lower the bar under control (don't count the seconds, just lower it under control), touch the shirt but not the chest (picture being told this, then picture how you would respond if given this type of instruction) pause briefly (if you wish...discussed in the Exercise section), and then press hard to full lockout. No bouncing off the chest, no heaving of the butt into the air, no kicking of the feet, etc. Make your muscles do the exercise.

The name of the game is control. The squat is somewhat unique as far as the eccentric portion because you can use a certain technique to activate a VERY strong contraction of the hamstrings, allowing you to use significantly more weight in a manner that is safer and provides better muscular and strength development. If you want to find out what I'm talking about, then [[url=http://www.startingstrength.com](http://www.startingstrength.com)]buy the book[/url].

Deadlifts are unique because they start with the concentric (raising) portion of the lift, and the eccentric portion is generally best left as a separate element. Although there are a variety of deadlifting techniques "on the market", the basic deadlifting technique described in the book requires a powerful raising of the bar, then a semi-controlled (although usually much faster) lowering of the bar.

Originally Posted by Mark Rippetoe

*As long as a modicum of control is exercised, (the deadlift weight) can be dropped as fast as the trainee is capable of doing safely, with the back in good position according to our previous analysis*

Better to use bumper plates for this if possible. If not, you may need to use rubber mats to pad the fall of the weight. Do not provide an excessive amount of resistance to the bar on the way down (it can be used, but that discussion is best left for another place with a different set of goals).

As for the power clean, it is a different movement entirely, and is an animal unto itself. You start the exercise with a basic deadlift, but once the bar clears the knees, you attempt to toss the bar into space as you try to jump to the moon (slight hyperbole here). This is a "fast exercise". There is a certain level of control, but make no mistake, you are trying to move the bar as fast as you possibly can. You can AND MUST

accelerate the bar during the concentric phase to the point where you are basically throwing it.

As for the lowering of the bar, if you watch olympic lifters who are doing cleans, they simply allow the bar to drop out of their hands from the rack on their chests and the bar bounces around once it hits the platform. They don't even try to control the bar on the way down, they let go of it. Doing power cleans, obviously, pretty much requires bumper plates and an Olympic-friendly gym.

The same ideas go for the accessory exercises. Control both the positive and negative portions of the exercises without bouncing, swinging or heaving.

## **VI. Routine-Specific Questions, Part 3**

Question - How long should i rest between sets, exercises, and during warmups?

This is a strength program first, and a "mass and conditioning program" second. As such, you rest as long as necessary between sets.

During the warmup, rest between sets will be minimal. You want to get blood into the area, raise the temperature of the associated musculature and connective tissue, take some time to practice the exercise with lighter weights, and increase tissue elasticity. With the useage of light(er) weights during your warmups, you can use a shortened rest period. You may only need to to rest long enough to change the plates between warmup sets. However, once you get to the "meat and potatoes" of your workout (i.e. the "3x5 work sets"), you rest as long as necessary.

If you are poorly conditioned, you may require several minutes between sets, especially on the squat, deadlift and power clean, as these are particularly taxing exercises. Once you are "in shape", you can probably get by with no more than 2-3 minutes between sets. However, once the weights start getting heavier, you may take upward of 5 minutes between sets, especially when you are setting PRs (personal records) in the squat, deadlift, row and/or power clean.

Resting between exercises is not something you really need to worry about. You will need to change weights, change stations, get a bench set up (or a power rack set up) or whatever. The exercises are chosen so that you are alternating primary areas of work, so that you don't really need to overthink this aspect of resting.

For example, you are trashed from your squats, and you have bench presses next. Well glory be to God, you get to lie your happy ass down on a bench and do some light warmup benches with an empty bar! While your legs (and possibly breathing and overall body) recover from the squats, you are lying down on the bench, happy as a pea in a pod.

Again, don't overthink rest periods between sets or exercises. Move between exercises as quickly as you can, however, DO NOT compromise your performance. If you can get 5 reps after resting 2 minutes, but only 4 reps if you rest 90 seconds, then rest 2 minutes. If you need to rest 3 minutes in order to get that 5 rep set, then rest 3 minutes. If you need 5 minutes of rest before you can reasonably get the 5th rep, then take all 5 minutes. Strength and weight-on-the-bar increases are more important than your heart rate while lifting weights.

NOTE - the next portion is NOT ADDRESSED BY MARK RIPPETOE. As such, it is coming from me, Kethnaab, the oaf behind the keyboard. Take such advice for what it is, the words coming from an ornery old staff sergeant who has spent too much time training young soldiers and not enough time at home sleeping.

Rest between accessory exercises is thoroughly up to you. You can do your accessory exercises as part of a circuit, resting only long enough to move one station to the next. i.e. do your set of dips, then immediately walk over to the chinup bar and have at it, then immediately walk over to the slant bench and do your situps, etc. Or you can do all your sets normally, i.e. do a set of dips, rest, do another set of dips, rest, do your last set of dips, move on to chinups, lather, rinse, repeat.

Don't overthink this part either. You can use the accessory exercises for conditioning purposes if you like, which circuit training lends itself to nicely. You can use the accessory exercises for the purposes of strength improvement, which means you are going to hang some weight from you and do some heavier sets. This will require longer rest periods, just as with the main exercises. If you are trying to do some "bodybuilding" style work here, you will want to keep your rest periods relatively short, between 60 and 90 seconds. It is up to you.

ACCESSORY WORK IS JUST THAT... "ACCESSORY WORK". IT IS NOT A PART OF THE MAIN WORKOUT, AND SHOULD BE USED ONLY BY EXPERIENCED TRAINEES. AS SUCH, YOU SHOULD HAVE ENOUGH EXPERIENCE TO KNOW WHAT YOU WANT TO DO. If you have a ton of questions to ask about accessory work, chances are pretty good, you probably don't have the experience necessary (and as a result, the conditioning necessary) to really need to do the accessory work. Accessory work is for people who NEED accessory work. If you are new, you don't need accessory work (yet).

Question - When I'm done, I don't feel tired and I don't have a pump. Is something wrong?

Not at all. This routine is not about "getting the pump". It is about adding weight to benchmark exercises so that you get stronger. The pump is not a part of this program. Strength and muscular development is. Although Arnold thinks the pump is as good as cumming, many of us beg to differ. The pump has SOME type of correlation/relationship to growth...maybe...or maybe not. It certainly isn't a necessity, and it certainly isn't worthless, but it is far from being important enough to worry about.

In many a typical "bodybuilding" workout, especially a bodybuilding workout that is augmented with anabolics, the pump can be a pretty interesting experience. Although it CAN be indicative of potential muscle growth, it is not, in any way, shape or form, DIRECTLY tied to muscle growth.

In other words, muscle growth and "the pump" are not directly related. You can have one without the other. You can build tremendously large, thick muscles without getting much of a pump.

You'll notice that some of the leaner powerlifters and strongmen out there are incredibly well-developed and powerful. I'm willing to bet they don't conduct their training with "the pump" as a goal. It might be a side effect, depending upon the phase of training and the specific exercise, but it certainly isn't their target.

You want a pump? Grab a Campbell's soup can (I like Chunky Steak'n'Potatoes, myself) and start curling it. Curl it for 10 minutes. Bet your biceps feel tired! Bet you have a helluva pump! Bet you didn't do a damn thing to make your biceps bigger or stronger!

Get it? Pump != Growth

Bottom line - don't worry about the lack of the pump. If you really need to get a pump because it is just like cumming, find a pretty lady who is willing and able, or get some vaseline and spend some quality personal time with yourself.

Question - How long should I rest between accessory exercises and sets?

Accessory exercises can be done separately, i.e. do all your pullups, followed by all your abs, followed by all your back work. Or, it can be done as a circuit, i.e. do a set of pullups followed by a set of abs, followed by a set of GHRs, then repeat this triple-exercise for 2 or 3 circuits. If you do your sets separately, you should rest no more than 90-120 seconds between sets and exercises.

The first few workouts have been incredibly easy, am I doing enough? I thought this program was supposed to be hard?

Remember, in order to grow bigger and stronger, you merely need to disrupt metabolic and physiological homeostasis. If you have been sitting around playing Nintendo for your whole life, you don't need to do much of anything to disrupt said homeostasis, since the only exercise you've gotten, aside from great thumb action, has been walking to the refrigerator.

As such, the first workouts are going to be submaximal (For safety reasons as well as conditioning/growth reasons), and they will end up relatively short. As you progress in strength, your workouts will become increasingly difficult, simply due to the added weight being used. By starting off relatively easy, this also reduces the incidence of

crippling DOMS, and tends to result in less injuries and better exercise technique being learned by the trainee.

Question - I don't get a burn in my muscles, just an ache. Am I doing something wrong? Shouldn't I feel a burn?

This program is not a "burn in the muscles" type of program. Jane Fonda wanted to feel the burn when she did her aerobic tapes. If you take a 12-oz can of Chunky Soup (The soup that eats like a meal), and curl it for 20 minutes straight, you will feel a burn. If you flap your arms like a dodo bird trying to fly, you will feel a burn. None of those things will provide any type of growth.

Although "feeling the burn" in a variety of exercises can be beneficial, it is unnecessary at this stage of training, and as such, is not going to be a result of this type of training. No, you aren't missing out on anything, other than a burn. If you want to feel a burn, light yourself on fire.

# Will This Program Meet My Goals?

## Will This Program Meet My Goals? Part 1

How do I know if I am a beginner, intermediate, or advanced lifter?

Mark Rippetoe discusses this specific question in Practical Programming, and although I don't want to steal his thunder, I will give some basic insight here.

Beginners come in a few flavors...the "completely untrained couch potato", the "athlete with no barbell training", the "haven't trained in ages but used to be in shape" and the "trainee with a small bit of training experience". There are a few other types of beginners, but I don't particularly care to dig into that. What is important is the single characteristic that undeniably proves that you are a beginner...

Progress is measurable from workout to workout. Note that I'm not talking about the guy who does chest once per week, and gets progress between chest workouts. I'm talking about straight linear progress, where everytime you step into the gym, you lift more weight on the same exercise as the previous time you stepped into the gym. That is what the novice program is designed to do, make you lift more weight on the same exercise (or a very similar exercise) each time you step into the gym. The volume and workload that a novice is capable of performing is within his capability to recover from workout to workout. As a result, he is able to make rapid progress with only 1 day of rest between workouts.

You walk into the gym monday, and you squat, press and pull from the floor. You walk into the gym Wednesday, and you squat, press, and pull from the floor. You walk into the

gym Friday and you squat, press and pull from the floor. Each time you squat, you use more weight than the day previous.

A beginner will eventually begin to stall on lifts and resetting (discussed in Section III - Programming) simply doesn't provide effective weight advancement.

The workload and volume necessary to elicit a "training response", i.e. disrupt homeostasis, is now large enough that you cannot recover day to day. So the next step becomes weekly progression, rather than the daily progression of the novice. You set up your training in such a manner so that you measure progress week to week. A lot of the better-designed bodypart splits use weekly progression as a means toward gains. Perhaps this week you do a "heavy" press workout and a "light" press workout. Next week, you want your heavy workout to be a few pounds heavier than this week's heavy workout, and you want next week's light workout to be heavier than this week's light workout (unless "light" happens to be a "recovery" workout). Stalling still occurs, and linear periodization and resets can usually get past stalling. Simple volume and intensity manipulation schemes will work to keep the trainee progressing.

Once this type of basic weekly progress stops working, despite proper nutrition, rest, recovery, exercise resetting and linear periodization, the advanced and elite athlete will need to progress to a more complex scheme known as "dual factor" or "two factor" periodization. This type of training is more complex, and involves extensive periods of "downtime" where you lift submaximal weights, and you build toward your previous maxes in an attempt to inch past them. More complex volume and intensity manipulation is necessary, and progress is measured in monthly phases as well as yearly planned cycling of said volume and intensity.

Is this a beginner's only program, or can intermediates do this program as well?

The basic novice program is for beginners only. However, intermediates can use the program with excellent success by incorporating a few small adjustments, as seen in Section III - Programming, for more info.

Question - I'm an experienced lifter getting back into shape, and I'd like to adjust some things on the Rippetoe program. Is this okay?

As an experienced lifter, you should know what it is you need to do and what you can't do. If you have injuries or weak points that need addressing, address them. The basic template of this program is still very valid. If you want to make adjustments, then by all means, use your experience and personal knowledge to do so. You, more than anyone else, will be qualified to make these adjustments, assuming you are actually experienced.

Of course, if you really WERE experienced, you wouldn't ask this type of question, you'd already know what to do, so you probably should just do the basic program as it is written and progress from there.

I do have a section that provides ideas for adjustments to this program. If you don't already have some pretty good ideas about how you could adjust it yourself, then don't bother because you aren't quite as experienced as you might think. ;)

Question - I did Rip's routine for a few months, but it is time to change things up. What should I do?

Head on over to Section III - Programming

Your questions have answers there.

Question - I'm 38 years old. Is this program only for young guys and teenagers, or can an older guy use it as well?

This program was designed with the young teenager, new to the weight room, in mind. Mark Rippetoe considers kids his "bread and butter", and as such, this program is geared to them. Many a 14-year old aspiring fullback will benefit from this style of training, but an old fart like you (and me!) can benefit as well.

If you are new to the weight room, and you are interested in getting bigger and stronger, this program is undeniably for you. At 38 years of age, however, you may need to make some adjustments. Squatting heavy 3x weekly may not be for you, and you may need to make some adjustments to the exercises because of injuries or issues you have due to your age and the time you've spent living life. Please see the section under "Exercises" that deals with exercise substitutions, as well as Section III - Programming

The general rule of thumb for the young kid is "don't fark with the program!" but "mature" folk can get away with it out of necessity. If you weren't old enough to reelect (or try to vote out) Slick Willy, then don't mess with the program!

Question - I'm new to weights and I want to get mass, but I don't like to do squats or deadlifts. I'm not injured, how can I work around this?

You're a pussy. Go find some old lady to carry your groceries and help you across the street.. You'll want to find another hobby while you're at it, perhaps knitting.

Question - If I follow this program exactly and eat perfectly, can I gain 80 lbs of muscle in 6 months on this program?

Realism is a difficult, yet beautiful thing. The reality is that a teenage athlete with the ideal levels of natural ability and motivation who eats like mad and is still growing in height may very well see some incredible lean bodyweight gains. 80 lbs of muscle in 6 months is not "incredible", it is ridiculously insane. 30 lbs of muscle in 1 year is fantastic, even for a teenager.

Pubescent males obviously will gain significantly more lean bodyweight in that time, assuming their caloric intake is high enough (it probably isn't). The fact that they are growing vertically as well as muscularly allows them to put on ridiculous amounts of lean bodyweight. If you go through a serious growth spurt when you start this program, and you eat everything that is dead (and kill the stuff that is still alive, then eat it), you MIGHT be able to gain 80 lbs in a year.

But don't count on it.

Question - I'm a girl, can I do this program?

This program is a strength and muscle-developing program. There is no law that says 'teh wimmens' need to use pink dumbbells or do easy exercises. If you want to do pink DB kickbacks, I suggest you check out the local Curves, or perhaps wear some real skimpy clothes and go to a Bally's. make sure you have your makeup on properly, make sure you wear some perfume, and make sure you expose your breasts. Follow my advise as outlined here, and I'm sure you'll find several trainers that will help you with your pink kickbacks.

If you want to be strong, then do this program. If you want to socialize, then please look elsewhere.

Question - Is this a good program for someone who plays (fill in blank with sport)?

This program is not a sports-specific program. It is not designed to make you fast. It is not designed to help your vertical leap, it is not designed to increase your discus throw distance, and it is not designed to help your jump shot.

It is designed to help you get bigger and stronger, period, end of story. If you are new to weight training, and it is advantageous in your sport to be stronger and/or bigger, then this program makes for an excellent off-season strength and conditioning program. Teenage wrestlers, football players, hockey players, and other younger athletes who will benefit greatly from increased strength and conditioning will benefit the most from this program. I cannot guarantee that it will help you golf better, nor can I guarantee that it will help you throw a 95-MPH fastball, but I can guarantee that it will make you bigger and stronger if you do the program properly.

## **Will This Program Meet My Goals? Part 2**

Question - Will this help me get built like Brad Pitt in Fight Club? Will this help me look like an Abercrombie model?

It depends. If you are a skinny bastard, then yes, this will help. If you are a chubby hubby who is already bulbous, then chances are good you won't ever achieve the lean, angular look of Brad Pitt because you simply aren't built that way. Anna Nicole Smith

can diet and liposuction herself to her heart's content, but she'll never be built like Charlize Theoren. If you're a big husky fellow, embrace your inner oaf and stop trying to look like Brad Pitt.

Besides, if you succeed, you might end up with half a dozen adopted children from all corners of the globe.

Question - Wouldn't a 3 or 4-day split work better than this? Don't you need more recovery?

A 3 or 4-day split won't work better for a novice.  
It might work better for an intermediate, but probably not.  
It probably would work better for an advanced trainee.  
It definitely would work better for a bodybuilder preparing for a competition.

Let's look at a typical 4-day split.

Day 1 - Chest/triceps  
Day 2 - Back/biceps  
Day 3 - Delts/traps/forearms  
Day 4 - Legs  
Day 5 - off

So in the course of a 15-day period of time, using a 4-day split you would train 12 days, rest 3 days, and squat, bench, row, and deadlift 3x.  
Using the Rippetoe novice program, you would train 6 days, rest 8 days, squat 6 times, and bench, row and deadlift 3x.

So you end up training 2x as many days, So you squat half as often and you bench, row, and deadlift the same number of times. Yet you end up training 2x as many days (12 versus 6) and you rest less than 1/2 as often (8 days versus 3).

As a novice, you will need the extra rest times for recovery, especially if you are to maintain consistent progress on the benchmark exercises. Someone more experienced and better conditioned with a barbell will have much greater success with a split-type program than the novice.

Was Mike Mentzer right when he said that HIT is the best way to train? Wouldn't HIT be best for a beginner?

No, and no.

HIT is completely wrong for a novice. In fact, it's the exact OPPOSITE of what a novice needs.

1) HIT relies on failure training. A novice lacks the ability to focus himself so that he can train with the necessary intensity, and he lacks the technique mastery of the exercises to train to failure safely.

2) HIT relies on very brief, infrequent training. There is a certain amount of skill and neuromuscular coordination necessary in order to do the exercises properly. If you wanted to learn how to play the piano, would you practice your chords once per week for 20 minutes at a time, or would you do it more frequently for longer periods of time?

By the same token, how will you learn to do squats properly? By doing warmups and 3 sets of 5 reps, 3x per week? Or would you learn faster by doing 1 set this week, then 1 set the next week?

If you are an experienced trainee, and you want to give HIT a try, then go for it. It tends to work for people who have been overzealous for a long period of time, and even then, it isn't working because HIT is a great program, it's working because HIT is serving as a deload from the higher volume training that increased fitness in the first place.

Question - Pros don't train this way. Ronnie Coleman doesn't and neither does Ed Coan. What makes this so good, and why don't pro's train this way?

Comparisons from one person to another form the basis of all lifting sports. A bodybuilder compares himself to Mr. Olympia, a powerlifter compares himself to the record holder in the squat, Olympic lifters compare themselves to the best at their weight division, etc. For an experienced lifter, comparisons can be beneficial in this respect, as they can provide motivation and a tangible, obvious (although sometimes mobile) goal.

What is NOT beneficial is for a young, novice trainee to compare him or herself to the self-same Mr. Olympia or champion powerlifter/weightlifter/strongman. Why?

1) Do you have the same pharmaceutical regimen as the professional you are comparing yourself to? Their ability to recover will be greatly enhanced because of the almighty "better living through chemistry". If you aren't living better via chemistry, then you simply cannot do what they do and expect it to be beneficial.

2) Do you have the same training experience that the professional does? They've been training awhile, they have learned how their body reacts, and chances are good they have professional assistance as far as nutritionists and trainers who can assist them. They know exactly how THEIR body will respond. You do not know how your body will respond, because you have not trained anywhere near long enough or hard enough to have a clue. Most of you will not have a trainer, or at least a knowledgeable trainer, so there is no way you could possibly juggle all the variables of a complex workout scheme by yourself.

3) Do you have the same genetics that the professional has? Not everyone can be Michael Jordan no matter how much they practice basketball. Not everyone can be Alfred Einstein, no matter how much they study. Not everyone can deadlift like Ed Coan, no matter how much or how hard you train. Chances are good that you won't be able to use the same training program that a professional uses, even if #1 and #2 above are identical to the pro. You simply don't have the genetic makeup. If you do, you will most likely find that EVERYTHING works for you, and then it won't matter much what workout program you choose.

What this boils down to is that a novice or beginner does NOT need to train the way a professional does. Not only would it not benefit you, it will probably HINDER your progress. Many a newb has attempted to do the infamous Arnold Schwarzenegger double-split workout, and has gotten buried within 2 weeks, despite the best intentions and nutrition.

When you start off, you are FAR away from your genetic potential. As a result, the need for training complexity is rock bottom, and your rate of growth and development will be sky high. As you progress toward your genetic potential, your gains will slow down drastically, and the need for complexity in your training will increase just as drastically.

Take advantage of the "novice" status and use the simplest program, as the simplest program will yield the best results for you. Later on, when you know your body better and you have developed the conditioning and knowledge to make significant adjustments to your training, you can do so in a much more informed state of mind and a much better physically conditioned state.

Should I do WS4SB, WS4BB, 5x5 intermediate, 5x5 advanced, HST, HIT, or Rippetoe?

That depends. Rippetoe's "well-known" programs are designed specifically for novice and intermediate trainees. Both 5x5 linear/intermediate and HST make for natural progressions of what Rippetoe uses for his programs. WS4SB has a variety of somewhat technical and sport-specific training methods which may or may not suit your goals (And may or may not be unnecessarily esoteric). HIT...well...HIT might work for you if you have very very poor recovery, or if you are using bodybuilding pharmaceuticals, but I wouldn't count on it. WS4BB is an advanced program only, and it is recommended that you run a 5x5 advanced first, as it is also a relatively high volume training routine.

Beginners and early intermediates should stick with the Rippetoe programs. Intermediates can start to use the 5x5 intermediate, HST, or WS4SB, or one of the variations I describe in Section III - Programming. Advanced trainees can modify HST to suit their needs, or they can try the 5x5 advanced or the WS4BB. If you want to use WS4BB, then you shouldn't need to ask questions on it. If you have to ask questions, then chances are good you aren't ready for it.

Question - Can I do (exercises) on the off days?

No.

Your "off days" are just that...they are "off days". They are necessary for growth. If you are so advanced that you think your arms, abs and traps are "weak points", then you shouldn't be doing this program.

But realistically speaking, your arms aren't "weak points", your ENTIRE BODY is a weak point. So train your entire body. Once you have developed your entire body and made some progress in strength and overall muscular bodyweight, then start worrying about minutiae.

Does Rippetoe's novice program work my inner pecs and 'teh biceps peek'

This is a novice program. As such, there is no "bodypart specialization". You can't work your "inner pecs" because you don't have ANY pecs. Similarly, your biceps peak is lacking because you can't have a peak in your biceps if you have no biceps.

If you are developed enough to be able to honestly assess that your biceps peak is weak relative to the rest of your biceps, or that your inner pecs are lagging, then you need to use a more advanced program.

Chances are good, however, that you simply need to add muscular bodyweight in order to bring up your "inner pecs and teh bicept p3ak"

## **Will This Program Meet My Goals? Part 3**

Question - I'm 15 years old, 5'11, 135 lbs. Will this program help me build up teh bicept p33k?

Kid, you weigh less than my left ass cheek. Worry less about your biceps peak and more about putting on some muscular bodyweight. Even if you develop a pair of 15-inch "guns", you will look like a skinny geek when you put a t-shirt on. You will have outstanding success by putting on 20-30 lbs of muscle. Your shoulders and back will fill out, your chest will bulge, and lo' and behold, your arms will grow as well!

At 135 lbs, you don't need to worry about your peak. Your biceps peak isn't your weak point, your entire body is your weak point. Train with that in mind.

If you simply must Must MUST have a biceps peak above all else, then I suggest you do the following workout:

5 sets barbell curls  
5 sets DB curls  
5 sets concentration curls

5 sets spider curls  
5 sets EZ bar curls  
5 sets Hammer Curls  
5 sets Incline curls

do this workout 3x daily for the next month, and don't bother me until you're done with the entire month. Now go away.

and stay the hell out of the squat rack while you're doing your curls, mmmmkay?

Question - How can I get big only doing 3 exercises per day? Where is all the isolation work?

How many exercises are necessary to get big? Is it advantageous to do more of a less-effective exercise, or is it advantageous to focus on the most effective exercises?

The gyst of this routine is three-fold

1) Focus your efforts each day where they provide the most "bang for the buck" - i.e. each day, focus on the squat, a press, and a pull from the floor

2) Add weight to the bar and get stronger in those exercises gradually, and you will get big and strong all over your body

3) By learning only a few exercises rather than several exercises, you can progress toward mastery of those exercises more rapidly because your attention isn't divided.

Isolation work is added later in the program, once a base mastery of the truly important "benchmarks" has occurred. Anything that takes focus off of the main exercises, or slows progress on the main exercises, is "bad". Anything (legal, moral, and healthy) that helps advance progress on the main exercises is "good". If isolations don't help advance progress, then they are "bad". Since most novices lack the conditioning and the discipline to incorporate isolation exercises into their program without significant amounts of supervision, isolation exercises, for the rankest novice, are "bad", generally for the first week or three.

There is nothing inherently evil or immoral about isolation exercises. In order to obtain a fully developed physique, isolation exercises are not only desirable, but necessary. However, the novice is nowhere near having a "fully developed physique", so this point is moot.

Originally Posted by Mark Rippetoe, pg. 114, Practical Programming

*Since the trainee is both inefficient and unadapted, only a few basic exercises should be used, and they should be repeated frequently to establish the basic motor pathways and basic strength....(the) core strength and power exercises develop the foundation of strength and motor*

*control that will allow for later inclusions of more technically demanding exercises, because they utilize all the muscles in the same coordinated fashion that more advanced exercises do*

Does this program have enough hamstring work? What about traps and forearms? And what about teh biceps?

Hamstrings are addressed directly with the deep, full squat. When you lower your hips while maintaining an upright torso position such as in the full squat, your pelvic girdle will pull the hamstrings into a nice stretch. This will elicit an incredibly powerful contraction of the hamstrings at the bottom of the full squat, and in fact, once you go past parallel, your hamstrings take on a very large share of the load, both in hip extension as well as knee joint stabilization. Additionally, all pulls from the floor will activate the hamstrings to some degree from significant (Deadlifts) to moderate (cleans/rows)

Traps and forearms both will get hit hard and heavy during deadlifts, cleans and rows. Traps get additional work from overhead presses as well as squats (gotta hold that bar on the traps!)

Teh bicept gets hit from the rows, as well as chinups. Some people will develop elbow flexor strength and size pretty rapidly from the rows and chins. Others will find they need direct work. Direct biceps work is added in somewhere around the 3rd or 4th week, so don't fret, you'll be able to do your precious curls soon enough.

# General Weight Training Questions

## General Weight Training Questions, Part 1

Question - Do I really need to squat if my legs are already big?

First off, 3/4 of the people who ask this question are pussies. Don't be afraid of the squat. Learn to embrace it.

Having said that, I'll give you the benefit of the doubt and we'll assume you are part of the 1/4 that isn't afraid of the squat. Determine what your goals are. If you want to get as big as possible, all over, then you will most definitely want to become a master of the squat. Your physical structure might not be ideal for the squat. You may have zero aspirations of becoming a powerlifting squat champion. You might not really give a flying fig how much you squat.

But if you SERIOUSLY want to be as large as you possibly can, all over, then yes, you will squat, even if you already have big legs.

Originally Posted by Mark Rippetoe, page 19

*There is simply no other exercise, and certainly no machine, that produces the level of central nervous system activity, improved balance and coordination, skeletal loading and bone density, muscular stimulation and growth, connective tissue stress and strength, psychological demand toughness, and overall systemic conditioning as the correctly performed full squat. Squats spur full body growth when combined with full body training much better than full body training without squats.*

If you want to look like some Abercrombie model, then find another program and enjoy your nice, easy training style. If you are serious about adding muscle to your frame, then get under the damn bar and make it happen.

Question - Why do the Bally's trainers tell me that this Rippetoe thing is a fad?

Because the majority of Bally's physical trainers are clueless. This isn't a "Bally's" thing as much as it is a "commercial gym fitness trainer" thing. Some of the trainers are incredibly developed and very knowledgeable. They have a serious interest in fitness, and weight training specifically. They have done their homework and have practical as well as book experience that they use in their training methodologies.

They are the exception rather than the rule, however. Honestly, consider the source. A nationally known and world published trainer who has been lifting weights, training people, and running a weightlifting center for 3 decades probably knows more than the guy who took a class, studied for a few hours, and got some type of basic "athletic certification".

If you are a trainer at 24-hour Fitness or whatever and you take your job seriously, don't get your panties in a wad, save the hate mail, keep the flames to yourself. Instead of getting pissed at me, take some time to increase the competence and knowledge of your coworkers, because they are mostly idiots.

Question - What do "sets across", "pyramiding" and "ramping" mean?

Sets across is a method of weight progression where all work sets are done with the same weight for the same repetition # during a given session. i.e. "3x5x225" means you do 3 sets of 5 repetitions per set with 225 lbs for all of your work sets. This method tends to be very effective at both strength and muscle mass accumulation. The volume allows for mass accumulation and the repetitions, if low enough, provide for good strength development.

Ramping is a method of weight progression where all work sets are done with the same # of repetitions, while the weight increases. For example, "315x3x5 ramped" means you will do 3 ramped sets of 5, with 315 being the heaviest weight you ramped up to.

i.e.

bar x 5 = warmup  
135 x 5 = warmup  
185 x 5 = warmup  
225 x 5 = warmup

255 x 5 = ramp set  
285 x 5 = ramp set  
315 x 5 = ramp set

Notice that the lightest "ramp" set is still heavy enough to get a training affect, as it is 80% of the 5-RM (more on RM and its uses in the "Programming" section). The idea is to ensure you get to a nice heavy weight at the end of the ramping, but to use moderate weights and reps to get a bit of volume for workload increases and mass accumulation.

Pyramiding is an old-school bodybuilding type weight progression scheme where you start with a lighter weight and do a bunch of reps, then gradually increase the weight while lowering the reps. Its effectiveness is entirely dependent upon your goals and your exact methodology.

1 method of pyramiding for a bodybuilder, used as an example:

Warmups, then...

225 x 12  
245 x 10  
260 x 8  
265 x 4  
270 x 1 or 2

Note that the 12, 10 and 8-rep sets essentially obliterate the trainee, and that 2 more sets are performed, but with notably submaximal intensity (%age of 1-RM)? Since "heavy/hard" 8-12 rep sets are good for mass building, a good pump will occur, and the trainee will make some size gains for a period of time, but without some volume/intensity manipulation (or proper chemical assistance), the trainee will quickly stall on a program such as this. It can be VERY effective for periods of time, especially for well-trained individuals, but frequently the training emphasis ends up being placed on the lighter weights and higher reps, which burns the trainee out, rendering their last few sets too light to be of real use.

In many cases, a better way would be to do your warmups, then

275 x 8  
255 x 10  
225 x 12, 10

Notice that in the 2nd method of weight progression, the total workload is higher, the # of reps performed above 75% of 1-RM (Which could be estimated to be 315~325ish here) is much higher. The maximal 8-rep set is only 260 in the 1st progression method, and tops out at 270 for a rep or 2. A total of 3 sets are performed in the target rep zone of 8-12, and they are performed with less weight. In the 2nd method, more sets with notably more weight are performed in the target rep zone of 8-12 because fatigue is less of a limiting factor.

It simply makes more sense to train heavy when you are at your strongest, and as you fatigue, use less weight. The 2nd method is frequently referred to as "reverse pyramiding". You may also hear reference to "down sets", "burn sets", or "back off sets" to describe the lighter sets performed after the top weight.

Question - I want to setup a home weight room for my son (or for me) in my garage, so I can do this program. What do I need?

1) A power rack - get one that has solid spotter pins as well as easily adjustable, well-constructed J-hooks to hold the bar in the rack. Preferably, get one with a chinup/pullup bar attached. It should be at least 2" tubing, and the holes should be spaced no more than 2" apart. Some very nice racks, especially those made by Williams (sold at EliteFTS.com) have 1" spacing in the bench press area, which can also be useful, as well as costly.

2) An adjustable bench - This specific program doesn't require any adjustments of the bench because you will only do flat benches and standing presses during the novice stage. As you advance, however, an adjustable bench will be very useful. Make sure the bench isn't "wobbly" in the decline or incline position, and that it locks solidly into place at any angle. Ensure that several angles are useable, and for maximum value, ensure that the bench can be set to a completely vertical upright position for use as a seated overhead press seat. If you have the space and the cash, get multiple fixed angle benches. Start off with the flat bench, and as you advance in your training, pick up a seat, a low incline, and a decline.

3) Iron 300-lb barbell set. This is pretty standard, it contains a basic 84" 45-lb bar, a pair of 45s, 35s, 25s, and 10s, 2 pairs of 5s, and a pair of 2.5s. This is not an industrial strength barbell set, it is a basic beginner's barbell set, and will serve it's purpose for at least a year for most people, several years for others. The bar will eventually bend, and you will want to invest in a quality bar. In the meantime, weigh the plates once you get them to make sure they are accurate. If you are going to be performing olympic lifts, then prepare to spend the \$\$\$ on a quality Olympic set with bumper plates. They are expensive, yet they are completely indispensable and necessary for the aspiring O-lifter.

4) Flooring - A few layers of plywood covered with a heavy floor matting will go a long way toward preserving your garage floor. It is also helpful to have several cheaper "singles", pieces of floor that you can move around and position to provide additional protection, especially where the plates touch the floor on deadlifts, cleans and rows.

5) Plate racks - best bet is to pick up 2 A-frame types, and keep one on either side of the rack with one of each pair of weights you have on each A-frame.

6) If you end up buying a few bars (trap bar, Safety Squat bar, curl bar, triceps bar, basic Olympic bar), then get yourself a bar rack as well. Bars and plates lying around your gym are dangerous.

7) Chalk - don't ask. Just buy it. You can get a chalk tray if you like for convenience sake, or you can just toss it into a Tupperware container.

### VIII. General Weight Training Questions, Part 2

Question - How much does the bar weigh?

The basic 84" (7-foot) Olympic bar will weigh 45 lbs. The variation that typically comes with metric weights is going to be 20kg (44 lbs)

Curl bars, triceps bars, fat/thick bars, Safety Squat bars, trap bars, etc. all vary greatly in weight, so you are best served by weighing them yourself.

Question - Will this program help me punch harder, I want to be a UFC champion?

Learning to punch harder is as much a function of technique as it is pure physical strength. This program will make you strong. If you are extremely strong, but your punching technique sucks, then you will punch like an oversized puffball, but you'll look pretty strong doing it.

Strength is always a good thing, and assuming you know how to punch properly, then this program can help you punch harder simply by making your muscles stronger.

Question - I bench more than I squat or deadlift. Is this okay, or is this weird?

Yes, it is weird, but it is not all that uncommon. The bench and curl jockey mentality that pervades the typical youth culture certainly lends itself to greater development of that associated musculature despite the inherent relative weakness of the pectoral girdle and elbow flexors/extensors when compared to the hips and legs. I mean, when people say "make a muscle", they don't mean "flex your hamstrings".

Evenly developed people have a stronger deadlift than squat, and their deadlift and squat is much higher than their bench press. If you can bench more in skivvies and a t-shirt than you can deadlift or squat, then you have some serious muscular imbalances. This program will help you correct your weirdness.

Question - Should I work out in the morning, in the afternoon or the evening?

This is going to vary from person to person. There is a bit of evidence that suggests weight training is ideal in the later morning/early afternoon timeframe, especially for adults in their 30s or older, but I would worry less about this and more about what works better for you. Some people train best on a stomach without much food, others train best with several meals in their bellies. You need to find out what works in with your time schedule and your meal planning best.

Question - I'm sore after my first workout, should I skip the next workout?

No, assuming the soreness is basic muscle soreness. If the soreness was felt during or immediately after the training session, then seek medical advice because you might have an injury. If, however, the soreness didn't seem to be problematic until several (i.e. at least 8-12) hours after the training session, then it is probably Delayed onset muscle soreness (DOMS). A good (and common) indicator is that you feel fine when you go to bed, and wake up the next morning with a serious tightness in the muscle that hurts (yet feels good) as you stretch.

DOMS is very common, especially upon the initial undertaking of a training program. Since the volume on the Starting Strength program is quite reasonable, it is almost guaranteed that the soreness isn't actual serious damage. Just continue to work through it for the first several workouts. Chances are good that after the first weekend of rest, you will be fine. In fact, training through the moderate soreness you should feel after the first few workouts will help condition you so that DOMS isn't such a problem after future workouts. The soreness is merely your body's way of saying "you were a Nintendo-playing couch potato for too long."

Interestingly enough, skipping workouts due to DOMS is a GREAT way to guarantee you will continue to get sore after your training.

Train through the basic DOMS. If you have acute, severe DOMS which interferes with basic ROM, then that is a case-by-case basis that needs direct, rather than indirect (via the internet) attention and advisement.

Question - My doctor says that I'm too young to lift weights, and that it'll stunt my growth. Is this true?

Yes, it is true, weight training in youths causes the stunting of the youth's growth...if, by "stunting of growth", you mean "will help the youth develop thicker, denser, stronger bones, muscles and connective tissue."

Weight training will not stunt your growth. This myth arises from a few poorly conceived, poorly conducted studies which demonstrated that some young weight trainees suffered from fractures "related" to weight training.

What they neglected to mention is that almost all cases were the results of unsupervised, excessive loading and poor technique.

So essentially, these studies demonstrated that using too much weight and poor technique can cause injuries in adolescents... just like it does in adults.

As long as the training is supervised by a competent (And preferably knowledgeable and sensible) adult, incidences of injury are very infrequent when compared to other youth sports, such as football, soccer, basketball and track and field.

Question - I can squat a lot more than I deadlift, and I've done both for awhile. What should I do?

Squat deeper! Unless you are a mutant with stumps for arms or tiny hands, you should be able to deadlift more than you squat after a significant period of training on both lifts.

Assuming your technique on both lifts is fine (this is rarely the case, it's almost always due to poor squat depth), examine what your weakpoints are in the deadlift, and you can make adjustments from there.

If you are weak immediately off the floor, you might notice that after a few reps of a lighter weight, your hands start sliding around. If this is true, then you need to use a mixed grip (one overhand - pronated, one underhand - supinated), and get yourself some chalk. Your body will not pull from the ground what your hands cannot grip securely. Your body will sense the "weak" grip, and your hips and legs simply will not fire optimally, and the bar will sit there on the ground.

For a good demonstration of this, find a weight that is about 5 lbs more than your max deadlift with a double-overhand, chalkless grip. Chalk up, use a mixed grip, and notice how easily you rip it from the ground.

If you notice your lower back rounds frequently, then you need to lower the weight a bit, using a weight that does NOT cause your lower back to round, and get some training volume in so that your lower back gets stronger and becomes conditioned.

The lower back MUST stay contracted solidly, so that your upper body can remain stiff and rigid, thereby transferring power from the hips to the bar. Power has to go through the body, and if the body simply isn't rigid, then power transfer will not occur, and the lift will fail. Your knees will end up locking out, and your hips will fail miserably at trying to lift the weight via your flimsy upper body.

Oh yeah, you can also cripple yourself by destroying your spinal disks.

For more information, get Starting Strength and read up on the deadlift and squat chapters. There are 84 pages dedicated to the performance and execution of these 2 lifts alone, so I won't attempt to reproduce it here. Don't be a cheap bastard, go buy the book.

Question - I can lift <this many> pounds. Is that good for my age, height, weight, sex, experience and astrological sign?

Go here and see where you rank.

What should I do if I have to skip a workout?

Don't. The workout takes ~45 minutes. You'll spend more time watching TV than that today, so don't blow off your workout ya lazy sack a beans!

If missing a workout is unavoidable, then it is unavoidable. Push that training session to the next possible day. Hit it up, and no more excuses for missing a workout! The most important factor in training for beginners is CONSISTENCY.

Question - Should I do a "deload"/"active rest"/"cruise" period after 6 weeks on this program?

No. Stay with this program for as long as it works. Once your lifts all stall, you will reset your lifts and continue on again until you have to reset once again.

Reset no more than 2x before you begin to make adjustments to your training, discussed extensively in Section III - Programming, as well as Practical Programming

Question - How do I know if I am overtraining? When should I deload?

Overtraining is one of the most misunderstood phenomena in all of weight training. Overtraining is a SYSTEMIC event, not a local one. You won't overtrain if you do biceps every day. You will overtrain if, over a period of weeks, you train so hard for so long that your body gets overcome by fatigue and you are unable to recover from your training.

Symptoms of overtraining vary widely from person to person. Severe appetite and energy drops are probably the most common. Aches, fatigue, restless sleep, muscles that always feel fatigued, odd body temperature (odd compared to what you are normally), etc.

For me, I know it's time to deload when I don't want to eat. For you, it might be different.

Remember, it takes SEVERAL WEEKS of hard training before overtraining can possibly occur, and for a beginner, the chances of overtraining on this program are almost 0. You simply will not be lifting enough weight to truly tax your system. You will end up resetting a few times and cycling off of this program before you will overtrain from it.

## **General Weight Training Questions, Part 3**

Question - Does this program build mass, or does it only add strength?

The bodybuilding magazine world is wrought with huge, vascular, "pumped up" fellows with bulging musculature, ripped abs and pecs, and enormously wide delts and backs. Yet there seems to be a disconnect between the size of their muscles and the amount of weights some of them move. Unfortunately, common sense takes a back seat to fantasy and silliness, and the result is that the novice trainee sees the pro on the cover of a magazine and now believes that he can get "big and hyyooj" without making progress in their strength. This is a fallacy, for several reasons.

First, we must define what a "bigger muscle" is. Your muscle, after a workout, is probably slightly bigger than it was when you started the workout. Think about what happens when someone does a few sets of curls, his biceps looks bigger. This happens for a variety of reasons, but for simplicity's sake, we'll just deal with the increased blood flow. That is "the pump" that has been discussed elsewhere. Intermediate trainees know this all too well, and they flaunt it to best advantage. Some keep light dumbbells in the back seats of their cars, and prior to encountering members of the opposite sex (or perhaps the same sex, depending upon which side of the plate they swing from), they will do some "pump sets" to make themselves look nice and 'swole'. However, this effect is short-lived, just as the flushing of your face from a hard workout is short-lived. It does not represent true "muscular size".

For our purposes, we will define 'a bigger muscle' simply as increased muscle tissue. It is beyond the scope of this discussion to detail the difference between myofibrillar hypertrophy and sarcoplasmic hypertrophy, except to say that additional myofibrillar hypertrophy is what results in "more muscle tissue", and is the type of size that causes the majority of muscular size and density in the vast majority of Homo sapiens sapiens. This is the type of growth we concern ourselves with. In the future, you can concern yourself with sarcoplasmic hypertrophy when you have been training for, perhaps, a year(ish). But for the novice, you need to understand that you **MUST** get stronger in order to get bigger.

Why do I need to get strong, I don't care about strong, I care about mass. Ronnie Coleman is bigger than the powerlifters, strength isn't really necessary, is it?

I'll make this as brief as possible.

1) The majority of powerlifters need to eat somewhat limited/controlled calories because they want to remain in their weight class for competition. They want to be as strong as possible while minimizing their overall bodyweight. As such, they eat with this in mind.

2) Lean muscularity coupled with vascularity and small joints creates the illusion of much greater muscular size, whereas smooth musculature and large joints create the illusion of much less muscular size. This is **ESPECIALLY** prominent in pictures, so bodybuilders, even if they have much less muscle mass than powerlifters, frequently look more "jacked".

3) The type of person who is going to be extremely successful in powerlifting will have very specific structural "abnormalities". Great deadlifters will have longer arms, great squatters and deadlifters will have shorter legs, great benchers will have shorter arms, etc. What is a guarantee is that a champion powerlifter will have a large, blocky waist and thick joint structure. A bodybuilder will have a smaller, more wasp-like waist, coupled with much smaller joints.

4) Powerlifters are frequently endomorphs with some mesomorph tendencies. As such, they will respond to training much more differently than the average bodybuilders, whose body has to be adaptable to losing bodyfat easily and rapidly.

Moral of the story? Don't compare powerlifters to bodybuilders. If you add 50 lbs to your bench without changing your technique, do you honestly think you won't have thicker pecs, delts and triceps?

On a side note, the last 2 Olympias, Dorian and Ronnie, are (or were) widely considered the strongest high-level bodybuilders of their respective times. By now, you've probably seen Ronnie's 800-lb back squat and deadlift, his 585x6 front squat, his 200x12 DB press, his 495 x 10 barbell rows...that is strength.

"Strength" != "1-rep max". Don't get them confused. "Stronger" means that your muscles can move more weight for any given rep range than they could before.

Question - I have injuries, can I do this program?

Under no circumstances should ANYTHING I say be construed as medical advice. The only real advice I'll give you is to find a competent physical therapist/orthopedic/sports medicine doc who lifts weights. If the doc doesn't lift weights, I guarantee that he will give some retarded diagnosis because he probably still thinks creatine is poison and that lifting will stunt your growth.

With that said, if you have injuries, then don't do stuff that hurts your injury, simple as that. Don't "train through the injury", because you'll only make it worse. Get fixed, do a thorough rehab, and THEN think about your training routine.

If you are injured, you work AROUND the injury, not through it.

Question - I don't have a spotter, can I still do this program? What can I do?

A power cage is the answer. Spend 5 minutes during your warmups checking how deep you go on your squats and presses, and set the spotter pins accordingly. Just about any workout is very do-able without a spotter, if you have a power rack. Lack of a spotter is frequently advantageous since many people end up relying on their spotters far too much. If your spotter seems to always get a great pump in his delts and traps while you train chest, then you're probably using the spotter too much. Since NO REPS COUNT if

they are touched AT ALL by anyone other than the lifter, there is no real need for a spotter.

How do I warm up properly for my training sessions?

Rippetoe recommends that you first warmup by doing a few minutes on the bike prior to starting your workout. The idea is to get a general increase in body heat and metabolism (no, not for fat burning). This will help prevent injury, as a warm group of muscles and tendons are less prone to injury. You should also do warmup sets for each exercise, although less warmups are generally necessary later in the workout, as the squat and press will get most of the body warmed up relatively well.

Originally Posted by Mark Rippetoe

*As a general rule, it is best to start with the empty bar (45 lbs.), determine the work set or sets, and then divide the difference between them into even increments. Some examples are provided in figure 5." (pg. 196)*

For example (weight x reps x sets)

Squat

45 x 5 x 2

95 x 5 x 1

135 x 3 x 1

185 x 2 x 1

225 x 5 x 3 <--Work Sets

Bench Press

45 x 5 x 2

85 x 5 x 1

125 x 3 x 1

155 x 2 x 1

175 x 5 x 3 <--Work Sets

Deadlift

135 x 5 x 2

185 x 5 x 1

225 x 3 x 1

275 x 2 x 1

315 x 5 x 1 <--Work Set

Press

45 x 5 x 2

75 x 5 x 1

95 x 3 x 1

115 x 2 x 1

135 x 5 x 3 <--Work Sets

Power Clean

45 x 5 x 2

75 x 5 x 1

95 x 3 x 1

115 x 2 x 1

135 x 5 x 3<--Work Sets

Originally Posted by Mark Rippetoe

*The warmup sets serve only to prepare the lifter for the work sets; they should never interfere with the work sets. As such they should be planned with this in mind. The last warmup set before the work set should never be so heavy that it interferes with the work set, but heavy enough that it allows the lifter to feel a heavier weight before he does the work sets. It might only consist of one or two reps even though the work sets are five or more reps.*

(emphasis mine)

Note that in all cases, as you get closer to the actual working weight, you do less reps in your warmups. The idea is to get the feel of progressively heavier weights in the hands/ across the back prior to beginning your maximum weight sets.

I will offer this one caveat...stronger/larger lifters may have a serious issue trying to warm up with an empty bar while doing squats. I personally cannot perform a squat with no weight on the bar, I need at least 185 or I can't balance properly. You may find it necessary to add, perhaps, a 25 to each side of the bar during your warmups in order to maintain proper technique.

Question - How do I stretch properly?

Like this

DC Extreme Stretches are used after each exercise, when the muscle is warm.

NEVER stretch a cold muscle, make sure you are warmed up first, and only do very light stretches before and during exercise. Save the serious stretching (i.e. 30+ seconds per stretch) for after your exercise, and on your off-days (highly recommended to stretch on the off-days). Avoid serious static stretching before your training. Use some light stretches between sets to keep limber, but don't overdo the stretching between sets. Just stretch enough to keep blood flow steady and to keep the muscles loose. Pay special attention to shoulder girdle and pectoral flexibility, as well as hamstring flexibility.

## **General Weight Training Questions, Part 4**

Question - Do I REALLY need a squat rack? I have a Weider 110-lb plastic weightlifting set and a bench at home. Can I still do this program without a squat rack?

No. With a 110-lb plastic weightlifting set, no bench, and no rack, you can do a little bit of nothing, and a whole lot of nothing.

Start mowing lawns and save up your money. Do the dishes. Get a paper route. Come wash my car. Whatever. But if you're serious about gaining muscular bodyweight, then get some real equipment. Uncle Joe's 110-lb plastic poptarts won't make you big and strong. Iron will.

Question - Should I use a weightlifting belt, knee wraps, or gripping straps?

The purpose of a weightlifting belt is to provide more efficient stabilization of the torso and lower spine while doing exercises such as the squat, deadlift, clean and row. As you progress in your training to more intense poundages, a belt will eventually become a potentially useful tool. For beginners, squatting and deadlifting without a belt, assuming you are using proper technique, is beneficial because it forces your torso and core stabilizing muscles of the midsection and lower back to get stronger.

HOWEVER...since most people don't have a knowledgeable coach to observe them, I feel very uncomfortable recommending that people skip the belt, so I will take the easy way out.

- 1) If you have someone watching/coaching you who knows how to perform the exercises properly, then skip the belt, and tell him to be very watchful of your technique, and have them watch for anything, such as lower back rounding or hips tucking "under" that will be indicators of a potential injury.
- 2) If you do not have a coach, then do your warmups without a belt, and make sure you do at least your last 2 work sets WITH a belt. You may very well be able to get away with skipping belt use during the first set of your
- 3) IDEALLY, a novice will not use a belt at all until they are moving much heavier poundages. However, I don't want a lawsuit because some knucklehead tried to perform a rounded-back good morning with 100 pounds too much, and tells the orthopedic surgeon "but kethnaab said I should squat without a belt", so I'll say now, to avoid lawsuit, that not only should you use a belt during ALL squats, you'll use a belt during every single exercise you do, and in fact, you shouldn't do any exercise at all because you might drop the bar onto your neck or something...and that would be bad [/personal responsibility]

But seriously, do as much work as you can without a belt, but do NOT push it if you don't have a competent coach. When in doubt, wear a belt. If you decide to use a belt, get a powerlifting belt Notice the belt is the same height throughout the entire length,

and only "tapers" inward near the buckle? That is the key. Don't get one of these kind of belts, with the wide back and super-narrow midsection.

As for knee wraps, they are completely unnecessary for now. If you are an older type and you need some support at the knee joint, I recommend you pick up some neoprene "sleeves", such as these. They should be loose enough so that you can comfortably keep them on throughout your entire workout. They should provide a minimal amount of spring while keeping your knees warm and they should also help your knee track properly. Excessively tight sleeves and/or wraps that are wrapped wrong are going to be worse for your knees than nothing at all.

Grip straps are a no-no also. You'll want to develop some grip strength now because if you don't develop it now, you stand to develop a serious strength deficit. Nothing wrong with a more advanced lifter using them at the proper opportunity, but a newb has no need for straps.

Question - Should I start off a program by using machines to develop some basic strength first, then move on to free weights later?

It's very commonplace to recommend machines when a trainee first starts out. Assuming the OP is not a 75-year old woman with osteoporosis, and is, in fact, a young guy or gal (young meaning younger than about 50 or 60), then I'm going to have respectfully but adamantly disagree with this concept. The initial training of a novice, regardless of age (aside from extremes), really is best served, IMHO, by ensuring they move on to basic movements ... bench, military, rows, squats and deads. These are good base exercises and hit virtually every muscle, directly or indirectly.

See, there are several problems when you start off with machines:

1) Development of the prime movers (i.e. pecs, delts, lats) without developing the strength of the associated stabilization musculature (i.e. rotator cuff, spinal erectors, etc)

2) Reinforcement of non-natural motor skills - you learn to do the exercise in the ROM (range of motion) that the machine allows. This will NEVER be a natural range of motion. Starting a novice off with this will reinforce a very negative muscular recruitment pattern which must be un-learned prior to mastery of the basic exercises. In other words, you have to "unlearn" the motor recruitment pattern from the Cybex chest press before you can really learn how to bench properly. The same goes for other exercises as well.

3) Lack of workload conditioning - one of the primary reasons a newb gets bigger so easily when they are new is the rapid conditioning aspect that free weights have on the body. Obviously neural improvement is far more rapid and prevalent in the novice, but the drastic increase in conditioning from "Nintendo-playing couch potato" to "hey, I train 3 hours per week" is enormous, and this results in some pretty substantial strength and muscular gains, aside from the basic improvements in neuromuscular coordination.

Free weights and strength-type conditioning (i.e. sled/log dragging, sledgehammer work, farmer's walks, etc) are far more suited to this, and take advantage of this far better than any type of machine

There's nothing wrong with a more advanced trainee adding in machines, especially near the end of a workout. They are useful for adding volume to a session once you are "smoked" from heavy barbell and dumbbell work, and can be used especially well to focus on weak spots because machines are generally very physically easy to use.

Potentially great and useful tool for a more advanced trainee, but definitely not good for the novice.

Additional info on squat form from Rippetoe...

This is the first thing Mark teaches on a squat and it's covered in Starting Strength. To this day, I use it as a warm up. This will not only get your knees pointed in the right direction, it will also help to stretch out.

1. Without a bar, squat all the way down.
2. Put your left elbow inside your left knee and your right elbow inside your right knee.
3. Clasp your hands together between your knees.
4. Your elbows will be pushing your knees outward and you'll feel a stretch inside your thighs.
5. Make sure that your feet are pointing in the same direction as your knees.
6. If your hams aren't touching your calves, stay in this position for a few seconds and stretch yourself out.
7. Stand up, thinking about lifting your tailbone first. Don't push with the legs as much as you think about lifting the tailbone. This is the first movement out of the bottom of the squat.
8. Repeat