

Starting Strength

Intermediate and Advanced Training: A Few Ideas

by

Mark Rippetoe, Stef Bradford PhD, Andy Baker SSC

Starting Strength is on a roll. The method is growing in popularity, and as it does, more people flow through the Novice pipeline and end up as Intermediate and even Advanced lifters than ever before. Once a tiny fraction of the training population, post-novice trainees now comprise a rapidly expanding section of the market for training information. It is important that the logic and clarity of the Starting Strength approach to Novice programming be maintained as these lifters enter into more complex stress/recovery/adaptation environments.

Complexity is seductive. There is something about it that the human mind finds attractive, as though harder to understand/more moving parts/some assembly required equals *Better*. Lifters are not immune, as the near-universal tendency to prematurely advance to unnecessarily complex programming demonstrates.

And yes, it matters. Progress will still be made on programs that are satisfyingly complex and advanced-lifterly, but if we can make progress every workout instead of every week or every 4 weeks or 8 weeks, the arithmetic indicates that the progress is faster. Most people's training eventually gets interrupted by circumstances outside their control, and if they're stronger when this happens – because they made faster progress when they had the advantages novices have – the interruption leaves more on the table after the layoff than it otherwise would.

This also applies to post-novice programming. The same principles that allow the efficient management of the stress/recovery/adaptation (S/R/A) cycle apply even when the cycle no longer operates in a 48 to 72-hour period. In the absence of a convincing argument *against* faster progress, it should be the default assumption. And the fastest progress will always be obtained by 1.) basing your training program on data collected directly from your training, and 2.) adding complexity to your training only when necessary and as little as possible. PRs are the measure of progress, and these two principles, when properly applied, result in PRs with the maximum frequency your level of training advancement permits.

Train Based on Your Training

Your training needs to be based on the training itself, not a performance. So we're all on the same page here, *training* is the process of accumulating a specific *physiological adaptation* or adaptations

Intermediate and Advanced Training

necessary for improved performance in an athletic event. Training is composed of a series of workouts that progressively and intentionally increase the stress from which recovery provides the adaptation. Training takes place over time, and it is carefully designed to produce the type of stress necessary to generate the adaptation specific to the performance for which you are training.

The *performance* is a point in time when an athletic contest will occur and [for which an athlete prepares](#) to demonstrate the best effort possible under the scrutiny of judges or against direct competition. The performance *tests* the limits of the preparation provided by training. (In contrast, *practice* is the repetitive execution of movement patterns that depend on accuracy and precision, to develop the *skill* that will be demonstrated in the performance.)

Training is therefore a *process*, and performance is a *demonstration* of the results of the process. It is obvious that Novice programming works because of the process of adding 5 pounds to the squat every workout until this process cannot continue to generate improvement. Novice training is not based on a performance, because there has been no performance – no *test*, no attempt to find the limit of ability. Rather, the novice determines his first workout weights by titration up to a heavy-ish weight that still permits absolutely correct form for 3 sets of 5, and then he adds 5 pounds to that weight for 3 sets of 5 for the next workout. This pattern continues until it cannot be sustained, with each workout based on the accumulated adaptation produced by the process as manifest in the previous workout's numbers.

The novice calculates his training loads based on his previous training – not a performance – and the process works because of the reliability of the S/R/A cycle and the trainee's diligent attention to driving the process efficiently. He rests enough between sets and between workouts, his incremental increases in training load accurately reflect his proven ability to do the work, and his diet and sleep effectively supports his training.

For the Intermediate trainee, the same principles apply: effective training must be based on the process that generated the adaptation – the selection of loads and workouts that produced the accumulation of strength, just like those which formed the basis of the novice progression that led up to the now-more-advanced state of adaptation. The Intermediate should not assume that just because he's no longer a Novice, the basis of his training load selection must change.



The Conventional Wisdom

It is common for Intermediate trainees to “fall off the wagon” and default to the conventional wisdom, which holds that a training cycle must be based on new PRs set at a meet or on a Test Day – a performance, as opposed to the training history that produced the need for Intermediate programming. The conventional wisdom holds that the meet PR forms a new datum line, and that training loads should be calculated as percentages of this PR. I have been told by sources I trust that some people will go so far as to use a “1RM calculator” table in order to estimate their 1RM for the express purpose of using a program based on 1RM percentages. Complexity rears its beautifully seductive head.

In reality, a PR at a meet is the result of the same processes that produced the training PRs leading up to the meet – which the Intermediate lifter experiences every week – with several other

Intermediate and Advanced Training

variables added in, factors which are not present during training and which therefore do not apply within the workouts – where the actual work that produces the adaptation will be done.

Some people feed on the adrenaline of competition, some are distracted by it. Meet directors have ways of fucking up your performance with inadequate staffing, shitty equipment, delays, misloads, and irritating displays of incompetence. Perhaps making weight in a weight class you don't belong in adversely affected your total. Maybe it's just a plain old Bad Day. Sometimes your Test Day at the gym doesn't go as well as you'd hoped it would, for many of the same reasons. All these factors contribute to a sub-par performance. And sometimes, on rare occasions, the meet runs so well and things fall into place so perfectly that the circumstances can't be duplicated in your own training environment.

You taper your training away from basic work toward peaking for the performance. And then you take a 2-week layoff, to “rest” and otherwise detrain.

All these performance scenarios, your taper, and your well-deserved layoff almost always generate *bad data* that cannot be relied upon for planning the resumption of training – data that will not accurately reflect what you can do or should do *now*, especially if it is used to project numbers based on a percentage of the performance number. A snapshot from a single day's performance is a myopic approach to a long-term project. This is why a meet PR and a true 1RM are seldom the same thing, and why a 1RM *test/performance* is irrelevant to your future programming.



The Starting Strength Approach

The simplicity and elegance of the Starting Strength method is this: plan your training on the previous workout if you're a Novice, the previous week's workouts if you're an Intermediate lifter, the previous month's workouts if you're an advanced lifter. Project your programming forward based on the trends that develop within these training periods, and on what you know about how you respond to the stress of training, how best to facilitate recovery, and how the adaptation affects subsequent workouts. If you're a Novice, just go to the meet and see what happens. If you're an Intermediate, do the meet in lieu of your heavy Friday workout. If you're an advanced lifter, plan for the meet as far out as your training advancement requires. Then everybody resumes training after a meet using the most recent data from *training before the meet*, not data from the meet itself, since training data is better-quality data for training.

This is not to discount the value of the performance itself. Assigning yourself the task of getting ready for a meet and executing a performance under pressure adds urgency and value to your training. It focuses the mind. And the performance itself provides very high-quality experience that comes in handy at the next meet. In this sense the performance itself is a form of *practice* for subsequent competition, and the data obtained will include such things as attempt timing, the conversion of training loads into 3rd attempts, the proper selection of 1st and 2nd attempts, the effects of varying rest periods on your attempts, how you deal with misloads and timing errors, etc.

But the data obtained during a meet is best applied to the next meet, not to your training. Your performance at the meet is *not* the determining factor of your level of training advancement, even though your level of training advancement may well determine what you do immediately after the

Intermediate and Advanced Training

meet, i.e. the necessity of a deload period. *Training data and performance data are two separate data sets*, and are best used that way. Train according to your training data and compete according to your meet data, and the results will not be distorted by inapplicable inputs.

The Lowest Effective Dose of Complexity

When considering our Novice lifter's training status, it's important to keep the actual length of his "training career" in perspective. A trainee with 6 months of experience may no longer be a Novice (as defined in PPST3 with regard to level of training advancement), but anybody who has only been training 6 months is still a *beginner* in terms of experience under the bar. As any experienced lifter knows, 6 months of training only scratches the surface of what a lifter has yet to learn.

The aforementioned near-universal tendency to attempt to train past your level of actual training advancement is an example of inexperience getting in the way of progress. A Novice who has been accumulating strength by adding weight to his squat every workout for 6 months, who has a couple of tough workouts, and who then decides that Novice programming has lost its allure will often jump into a program designed for lifters much more advanced than he is.

This is an example of selecting a program to emulate your Heroes, not training based on an accurate assessment of where you are now and an analysis of the best way to improve from here. Since trainees using post-novice programming have by definition exhausted their ability to apply stress sufficient to cause an adaptation and be recovered from it in one workout. In other words, the *overload event* – the operative unit of stress in the S/R/A cycle – takes more than one workout to administer, perhaps a week, eventually a month or more. As the lifter progresses, the program will become more complex than the novice program. But no more complex than is absolutely necessary – the *lowest effective dose of complexity* principle should be followed.

If a week-long overload event works, don't use a month, or two months. **The closer you are to Novice programming, the shorter the overload event will still be.** Disregarding this causes time to be wasted, and if approached incorrectly will cause absolutely unnecessary levels of detraining. For example, a 35-year-old Novice finishes up a productive squat LP at $375 \times 5 \times 3$ – he's tried $380 \times 5 \times 3$ and missed some reps on his last 2 sets after a previous reset. He should back off to $355 \times 5 \times 5$ for his first squat workout using the [4-Day Split, an excellent programming choice](#) for a guy in this situation.

The 4-Day Split represents a change in training schedule from the 3-day Novice progression, while retaining the simple logic of regular progression. The lifts are trained only twice a week, the workouts are shorter, and recovery is easier, very important since recovery limitations were why the change was necessary. But intensity is preserved, progression moves from 48 hours to weekly, and PRs are only a few workouts away.

<u>Upper Body – Monday/Thursday</u>	<u>Lower-body – Tuesday/Friday</u>
Bench or Press	Squats
Chest/Shoulder assistance	Pulls
Lats	
Arms	

Again, PRs are the point of training: if you've stuck with this long enough to switch from Novice to Intermediate programming, lifting heavier weights was your motivation for doing so. The last thing

Intermediate and Advanced Training

most people in this situation should do is change the entire emphasis of the programming – moving from the simple elegance of the Novice LP to Matveyev Undulating Periodization or Verkoshansky Block Training or Smolovninskyevov Eludium Q36 Space Modulator Oscillating Phase Determinative Training or anything else developed for Elite Russian Athletes. This will be necessary eventually, but certainly not a few months after you start training.

On Volume

Volume training seems to be gaining in popularity. Backing off from 375 to 305 for more reps, sets, and higher volume while adding more squat days to the program would actually be detraining in intensity to favor increased volume, and “junk reps” do not drive a strength increase in anybody except a baby novice. Volume outside the context of tonnage is meaningless: 8 sets of 6 reps at 50% is high volume.

What often gets lost in discussions about volume is the fact that as a lifter moves upward through the levels of training advancement, and as the *overload event* obviously becomes longer, volume is calculated across the now-longer overload event. The Novice overload event is a workout, so the volume and tonnage are calculated for the workout. Intermediate trainees are using a week’s training as the overload event, and the math reflects this time period. A week’s training in a Novice program and a week’s training in Texas Method are not equivalent overload events – the Novice week is 3 overload events, and the TM example is one overload event. As every lifter progresses through the levels of training advancement, the volume in each increasingly-long overload event is higher than it was in the previous programming iteration as a natural consequence of the changing nature of what constitutes the overload.

It is true that hypertrophy is the only mechanism – after an initial co-development period of neuromuscular efficiency improvement – by which a muscle increases in strength. It is true that bodybuilders who train for hypertrophy use higher reps, maybe 812, more sets and less rest between sets (using lighter weights than 5s and 3s because you can’t do high-rep volume with very heavy weights), which results in higher rep numbers for each workout. But it is also true that as your deadlift increases from 500 to 600 using 5s, 3s, 2s, or singles across weekly and even monthly overloads, hypertrophy occurs to facilitate the adaptation, and increased volume has been a contributing factor. You’ll have to decide whether you want to train light bodybuilding volume for hypertrophy to drive strength, or train for strength and obtain hypertrophy as the facilitating adaptation. I suggest that the latter makes more sense to most people.

It’s also important to note that avoiding exposure to higher-intensity training in favor of lighter volume at this point in a lifter’s career robs him of critical lessons that all good lifters must learn. Straining against loads in excess of 90% does not merely display and build strength – grinding out heavy triples, doubles, and singles is also a *skill*. And skills must be practiced. You already know how to lift light weights – they’re called “warmups.” There is a psychologically and even an emotionally developmental component to unracking and lowering a weight you aren’t sure you can actually squat. Inexperienced lifters must learn to manage fear and apprehension, and develop the skill required to focus through it.

In my four decades on the platform with clients and lifters, I have observed thousands of people who prematurely racked a heavy set of squats or set down a heavy deadlift before it even got stuck on the way up. All experienced coaches have heard inexperienced trainees say, “I couldn’t have done another rep!” when we know from experience they had 2 or 3 more reps left on the bar.

Experience

Experience. Experience. Experience. Perception is based on it. Accurate assessment of your subjective perceptions is utterly dependent on it. Baby lifters don't know how limit work feels because they have never reached that level of intensity. They don't know that warmups sometimes feel like shit right before they find themselves able to do all the programmed work sets. [Experienced lifters set PRs under the same conditions](#) – the warmups feel like shit, they gather up their balls, try the PR anyway, and it goes up. Not as often, the opposite situation occurs: warmups feel better than they've ever felt, and the work sets are just not there.

Experienced advanced lifters learn to be objective about their capacities by experiencing actual failure under the bar. *You cannot learn to be objective about your perceived capacity under the bar without the occasional failed attempt.* While failure is not a desirable occurrence, it is the unavoidable consequence of training at the limits of your ability.

And each time you fail, you learn what it feels like and what led up to it, and you get better at accurately analyzing your efforts under the bar. By the same token, lifters also learn important lessons when they complete a rep they didn't think they could make. There is a lot to be said for grinding out a heavy rep, taking 10 or 15 deep breaths, then digging in and completing another one. I have written about heavy sets of 20 squats before, and I think the lesson learned from reps 18, 19, and 20 is far more valuable than the training effects of this horrible program.

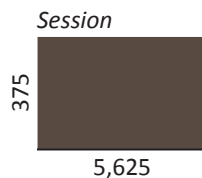
Having never been exposed to very heavy singles, doubles, and triples as a novice, early intermediate training is an excellent place to introduce this new training variable. It's a catalyst for continued progression – physiologically and psychologically. More sets at lighter weight doesn't teach you anything you don't already know.

Using the 4-Day Split example, the first week's volume day's 25 reps at 355 is a 10-rep volume increase that has you handling within 6% of your previous intensity on volume day, with work tonnage at 8875 pounds. It's both enough room for a run-up to fresh PRs and heavy enough to maintain the strength adaptation you've trained months to obtain. Then, intensity day at 380 × 5, the same weight you've done for 5 before the changeover, sets the stage for the intensity and the “grind” practice necessary for continued progress. The reduction in squat frequency from 3×/week to twice increases the recovery potential from the higher-volume workout while maintaining your strength for heavy weight.

OVERLOAD EVENT

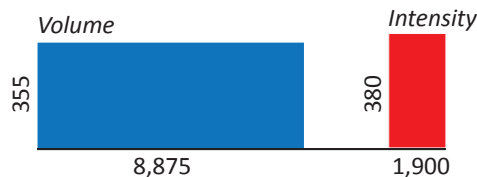
NOVICE

Work sets 375×5×3
Volume 15 reps
Tonnage 5,625



INTERMEDIATE

Work sets 355×5×5, 380×5
Volume 30 reps
Tonnage 10,775



A comparison of the Novice Linear Progression Squat overload event and the Intermediate 4-Day Split overload event.

Intermediate and Advanced Training

Advanced lifters often use longer periods of higher volume at lighter weight. Tapering up to PR intensity is necessary for athletes who are adding only 10–15 pounds to a lift over an 8 to 10-week period. If high intensity is the end of the taper, high volume has traditionally been the start of it – a deload period after a long cycle of high intensity and low volume. But if you were making 48-hour jumps of 2.5–5 pounds as recently as a couple of weeks ago, the jump into several weeks of lowered intensity for the sake of a training volume adaptation will be an unsatisfying, and more importantly unnecessary, regression into detraining. In this case the “lowest effective dose” refers to the amount of deviation from what has previously worked well.

At some point in a lifter’s training it will be necessary to get complicated, and to program in periods of time longer than were previously used, because the closer you approach the limit of your physical potential, the longer it takes to make a smaller amount of progress, the more complex the process will be, and the greater the likelihood of an injury because of the proximity to your absolute limit and your high level of motivation to find that limit.

But actively seeking a level of complexity that is not only unwarranted but unproductive is a waste of time and potential strength. Training is more productive if it remains as simple and straightforward as possible, and this means the absolute least amount of deviation possible from the task of setting new PRs as often as possible.

[Starting Strength](#) : [Articles](#) : [Videos](#) : [Podcasts](#) : [Training](#) : [Forums](#)

Copyright 2018 The Aasgaard Company. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by copyright law.