

Starting Strength

The Novice Effect

by
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We have a member here at WFAC who gained 55 pounds in 11 weeks. I shit you not. Zach Evetts started with us here in late August of 2009 and by November 12 when I weighed him and measured his bodyfat he had gained a total of 55 pounds of bodyweight and a little over 31 pounds of lean body mass (LBM). This calculates to a LBM gain of 2.84 pounds per week, approximately the rate of growth seen in young farm animals. Little baby pigs grow about this fast, and lots of people make money by raising baby pigs.

No, Zach was/is not taking steroids; being an extremely broke 20 year old college kid, he can barely afford his gallon of milk a day. And yes, he gained about 24 pounds of fat, none of which you can see very well and all of which will come off very easily when it becomes an issue. The point is that about 60% of his bodyweight gain was lean body mass, and that it's much easier for an athletic young man to lose fat than it is to gain muscle, at least when approached in the more typical 2009-model conventional-wisdom bodybuilding-paradigm way.

He also took his squat from 145 x 5 x 3 to 315 x 5 x 3 in this same 11-week period. This is terribly important to grasp, since herein lies the mechanism for the growth. Zach came to the gym three days per week, never missing a workout, and added 10 pounds to his three work sets each time for two weeks, and then added 5 pounds to his work sets until he started slowing down at 315. He ate more than 6000 calories a day, counting the gallon of whole milk, thus recovering from the training and having enough left over for quite a bit of tissue growth. He gave his body a reason to need to be bigger, and then he provided it the means to get that way. The training drove the growth, and the growth facilitated the increased training load. Last time I checked, Zach weighed about 225 and was squatting 335 x 5 x 3.

This is not an isolated case, but rather a prime example of good program/good program adherence convergence. Cliff Swanson, a slightly older guy at 27, gained 45 pounds in twelve weeks, with similar gains in LBM and fat. Neither of these guys was particularly worried about the bodyfat gains, and both were pleased with their strength increase. We have had several other guys gain impressive amounts of bodyweight, lean body mass, and strength this year, and my gym has a long history of working with young men that got much bigger and stronger when they first started training. Zach actually accomplished something significant in that he did what most exercise professionals have been taught could not be done, the standard dogma being that the first few months of strength increase are due primarily to increases in neuromuscular efficiency. Perhaps this is true of most people on an "evidence-based" periodized program designed by the Certified Strength and Conditioning Specialists

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with the NSCA, but not here. The important thing is that with proper rest and adequate caloric and protein intake, this progress can be sustained for several months, resulting in amazing gains in strength and muscular bodyweight.

Zach is an outstanding example of what can happen to a kid of typical 20-year-old strength that is ready to grow. Bryan Fox, another younger member, is an example of what happens when a genetically-gifted novice starts a linear progression. Bryan came into the program August 12 weighing 203 and squatting 365 x 5 x 3 having never done a novice linear progression. Today (December 29) he did 515 x 5 x 3 at a bodyweight of 216 (he claims a loss of bodyfat – I didn't test him). The “novice” designation – as we've discussed many times – has nothing to do with how strong you are, but rather how far along you are in the process of approaching the limit of your ability to adapt, see *Practical Programming for Strength Training (PPST2)*, The Aasgaard Company, 2009) for more. Recognizing the fact that Bryan was still capable of using novice programming must be credited to the sharp eyes of Justin Lascek, my associate here at WFAC; it was a good call for a trainee that doesn't fit the standard “Zach” prototype. It should also be noted that Bryan did his linear strength progression with only twice per week squatting, and while doing two Olympic lifting workouts and two football practices each week – not a textbook novice approach, but one that preserved the stated desire of an athlete to compete in these two sports while making the most of his untapped potential for strength acquisition.

I read posts from my board every week that claim to have been following my program, but whose authors whine about a lack of bodyweight or strength gain. Here, if you haven't gained 10 pounds in three weeks (more typically two weeks), I know you're not doing the program the way it's

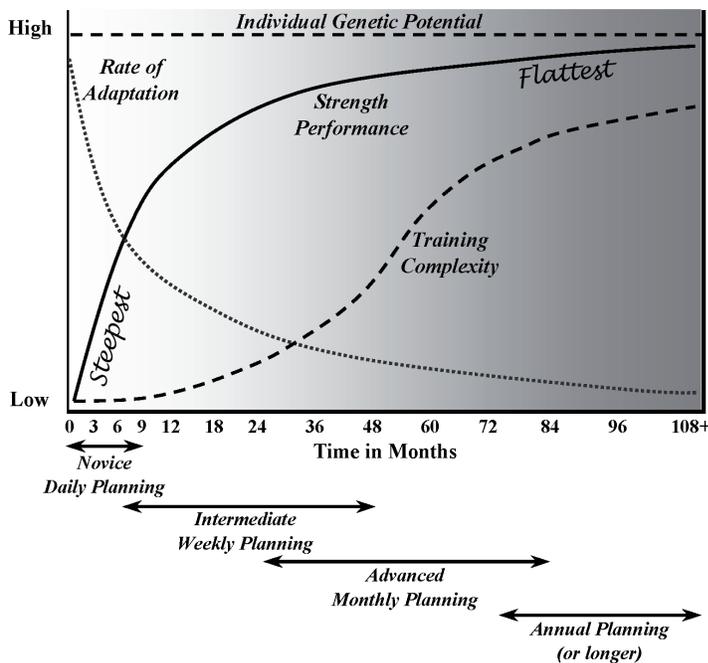


Figure 1. The rate of strength gain over a training career. Note the steep slope characteristic of the novice period; these are the fastest gains a lifter will ever make, regardless of the quality of the program. The better the program, the better the results.

meant to be done, and this is basically true for all males under the age of 40 who have no previous training history. It is true because of a phenomenon called the “novice effect” in *PPST2* and discussed at length in that book.

The novice effect, simply described, is what happens when a previously untrained person begins to lift weights – he gets stronger very quickly at first, and then improves less and less rapidly the stronger he gets. It is nothing more than the commonly observed principle of diminishing returns applied to adaptive physiology. *PPST* describes in detail the actual progression through the novice phase, so I won't recap it here. My purpose in this article is to explore the implications of the fact that this phenomenon always happens when the program allows it to, and that the potential for it to happen is always there whether the program facilitates it or not.

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First thing we need to get out of the way: strength is the basis of athletic ability. If you are a good athlete, you are stronger than a less-good athlete. If you want to be a better athlete, you get stronger. If you are already very strong, there is room in your training for the development of other aspects of performance. But there is a very high likelihood that you are not that strong, since most people are not. You may think you're very strong, but really, you know you could get stronger, don't you? Sure you do. You may have convinced everybody else that you're strong enough; you may even be convinced of this yourself. This is not productive, because if you can get stronger you should do so, and a lack of strength may be why you're not performing as well as you know you should be. If your progress is stuck, and has been for a while, get stronger and see what happens. It works every time, and this is why I know it's true.

You say you're a runner, and that you don't need to be strong. Get stronger and see what happens to your times. Or you're a tennis player: get stronger and watch your game improve. Even in sports not usually associated with strength display, the stronger athletes are the better athletes. You may not like it because it makes your carefully cultivated Bosu-ball and wobbleboard "functional" training skill set less valuable, but any athlete that trains a simple barbell strength program and improves his squat, press, and deadlift will become better at his sport than you can make him with alternate 3 lb. dumbbell seated Swiss-ball presses.

Strength can be built for years, much longer than neuromuscular skill can be perfected. This is because the adaptation for increased strength involves more than just neural adaptations. The musculoskeletal architecture happily adapts to stress over the lifespan of the organism. Your growth slows as you approach your genetic capacity to develop, but strength development continues throughout life if training is designed to facilitate it. "Dad strength" is explained by this phenomenon, as is the ability of masters powerlifters to break open records. And it is commonly recognized that a man's powerlifting career typically peaks in his mid to late thirties, fifteen to twenty years after starting the sport.

Since strength is this important, the most efficient way to acquire strength will therefore be the most efficient way to improve performance for the less-proficient athlete. And the most mathematically efficient way to increase any quantity over time is to incrementally add to the quantity in a way that allows the increase to accumulate for as long as possible. In the case of training, an incremental increase to the weight lifted each workout yields the fastest results. It must obviously be done in a way that permits these increases to continue, and this means that each increase must be recovered from and adapted to before the next workout, the physiologic capacity for which is within the ability of the previously unchallenged novice. But when it is done correctly, a "linear" increase of this type yields the greatest increase in strength in the shortest amount of time, and is thus the most efficient way to improve performance.

When an untrained person starts an exercise program, they get stronger. They always do, no matter what the program is. This is because anything they do that is physically harder than what they've been doing constitutes a stress to which adaptation will occur. I've said before that for this rank a novice trainee, riding a bicycle will make his bench press increase – for a short time. This, of course, does not mean that cycling is a good program for the bench press for anybody. It just means that for an utterly unadapted person, the cycling served as an adaptive stimulus. A novice responds to *each* exposure to a stress the same way – he adapts. So each workout for a novice can be an adaptive stimulus. The problem with cycling for a novice bench-presser is that cycling rapidly loses its ability to

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act as an efficient-enough systemic stress that it would continue to drive improvement on the bench, since it does not produce a stress specific to the bench press.

The thing that differentiates a good program from a less-good program is its ability to continue stimulating the adaptation. This seems awfully simple, doesn't it? So, by definition, a program that requires an increase in some aspect of its stress is an effective program for a novice, and one that doesn't, isn't – at least it isn't as effective as a program that does. Again, for a novice, any program is better than sitting squarely on one's ass, so all of them work to varying degrees of efficiency. This is why everybody thinks *their* program works. But nothing works as well as a scaled mathematical increase in some loading parameter each time, for as long as an adaptation to the increase continues to occur.

And since the best way to produce athletic improvement in novices is to increase strength, a program that increases total-body strength in a linear fashion is the best one for a novice athlete to use if he is to make the most efficient use of training time by making the most positive effect on his performance in the shortest time possible. Disagreement may exist over which exercises do this the most effectively, but it seems rather apparent that there can be only one efficient way to program them for a novice – a linear increase in force-production stress as often as can be supported by recovery produces a linear increase in strength.

A best case scenario is Zach's – he comes in skinny and weak, trains to his full potential, recovers to his full potential, and therefore expresses his optimum capacity for growth and strength. If Zach's is the best-case scenario, the fact that you don't really *believe* it happened the way I've described (you really don't, do you?) means that it happens infrequently enough that less-than-best-case scenarios are the norm. Statistically, I suppose this makes sense. The vast majority of programs don't make use of the novice effect to its full potential. CrossFit is an example of a training method that neglects to make full use of the fact that strength will increase rapidly if you ask it to, and that a strength increase makes all other fitness parameters increase along with it in an untrained person, male or female. It works very well since it is most people's first exposure to an exercise protocol that's supposed to be hard, and the impression of most inexperienced people who have tried it is very positive. P90X works well for the same reason, as does HIT, Turbo-Jam, the first week of football practice, and all participation in the first phases of any reasonably challenging sport. A strenuous physical effort – no matter what it is – acts as a stimulus for adaptation, up until the point that the adaptation occurs and the program fails to further progressively load.

This failure may be inherent in the program, like HIT-type Nautilus or Hammer Strength training, which rapidly exhausts the potential of one or two sets of about 10 reps to failure on single-joint/single "bodypart" or "muscle group" machines to continue to produce enough systemic stress to drive an adaptation. Or it may be a function of the inability of the programmers to utilize the tools properly, since CrossFit certainly embraces the concepts of training useful movements that affect the body systemically.

But to the extent that these programs work, they depend on the novice effect – whether efficiently exploited or not – to provide the results. Hard training applied to an unadapted individual will work for a while, whether that training makes long-term sense or not. The better the exercises in the program, i.e. the more effective they are at stressing the system in a way that is capable of producing an adaptation that results in a strength increase that can be applied to sports or work, the longer the adaptation will continue to accumulate, even if the programming is less than optimum with respect to its ability to elicit the most complete novice response.

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I have seen, in actual writing by a supposedly intelligent academic, the astonishingly silly claim that even if a linear increase in strength could be produced, that doesn't necessarily mean it's the best way to get strong. Well, what in the hell would be the best way to get strong? Get as strong in 6 months as an optimally designed and implemented program could get you in three weeks? Time is precious, my friends, and wasting it is bad because you don't ever get it back.



Figure 2.
Zach Evetts then (above) and
Zach Evetts now (right).

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