

Getting an "A" in CrossFit

A Massachusetts high school is set to offer the first class to teach constantly-varied, high-intensity functional movements

Vince Miserandino, M.Ed.



As a Physical Education teacher and strength coach for the last 10 years, I've long had a vision of what I believed a high-school physical education program should be. I've found it in CrossFit, which has had an immediate positive impact on athlete performance here at the St. John's Preparatory School, an all-male, Xavieran Brothers-sponsored Catholic academy of 1,300 students in Danvers, Massachusetts. Next fall, we will take it a step further, becoming what I think will be the first high school in the world to officially offer CrossFit 101 as a for-credit elective.

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It all began in September of 2007. Like many, I stumbled upon CrossFit from the movie, “300,” in which a vastly outnumbered handful of strikingly muscular Spartan soldiers repelled the Persian Empire’s invasion of their Greek homeland. Having heard that the actors and stuntmen who played the ripped Spartans got themselves into shape by flipping tires and swinging kettlebells, I found the main CrossFit site and did a few self-coached WODs. I then downloaded almost every free CrossFit journal article from the site, and spent hours soaking in all this new information. I have a three-ring binder that is two inches thick with all the journals on my work desk that I still reference.

As a triathlete, I knew instantly that CrossFit’s constantly-varied, high-intensity functional movements were going to make me faster and stronger. In past races, I never had problems with my cardiovascular system; my issue was with my muscular system. Bottom line: I was weak—but wouldn’t be for much longer. And as the Chairman of St. John’s P.E. Department and the main instructor in our special after-school, intramural strength-training unit, I knew I had to share CrossFit with my students and athletes.

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For years, every afternoon from 3 to 5 p.m., I’d been teaching my student strength-trainers some basic body-building exercises: bench presses, squats, and a few exercises for biceps and triceps, pull-downs, etc. I even bought some exercise balls (don’t laugh, you probably have one, too). We’d been using the Salt Lake City-based “Bigger Stronger Faster” program of basic power and strength exercises, which included the Olympic lifts and others. This was great for gaining mass and power, but I felt it did not develop enough balance and agility. I’d been looking for a more effective program to implement into the curriculum for a long time, but I couldn’t find

one that I felt confident using with everyone I taught and coached until I ran into CrossFit. The scalability of every aspect of it was key, because the same workout could work for everyone, from my Division 1 football prospects to a 14-year-old freshman with no strength-training experience.

I found a local affiliate, North Shore CrossFit, and took their three-day elements class to see if this was the way to go or not. Trainer Greg Damigella worked with me and a police officer friend of mine, teaching us the fundamental exercises that we were going to need to start CrossFitting. This training reinforced my thirst for more knowledge.

Impressed by some positive feedback from athletes, St. John’s paid my way to fly out to a Level I certification in Camp Pendleton, California in January ‘08. I sat in the auditorium surrounded by CrossFit HQ elites, including the main presenter, Coach Greg Glassman, and instructors Adrian Bozman, Nicole Carroll, Mike Collins, Jimi Letchford, Andy Stumpf, Greg Amundson, and others. I was fortunate to be in the company of Lt. Col. Dan Wilson and his dedicated Marines. I even witnessed Brian Chontosh and a Navy SEAL duke it out with Helen; Tosh won. During one of the breaks, I introduced myself to Coach Glassman and Nicole and told them I was interested in making St. John’s Prep an affiliate. They both responded, “Yes.” They told me whatever I needed, just ask. (Several months later, they waived the \$1000 affiliation fee, making affiliation a slam-dunk.) With my Level I Cert, I returned to Boston “wicked psyched” to make St. John’s Prep CrossFit a reality.

Plywood weights, no more Nautilus, and immediate impact

SJP CrossFit became an official CrossFit Club Affiliate on April 9, 2008. Any given day, from 15 to 40 athletes show up after school at the weight room, including individuals and the sport teams that use the facility during their seasons. CrossFit is voluntary; most do it. I post the WOD and teach the kids the exercises as needed, constantly correcting improper form and giving feedback to reinforce both intensity and perfect technique. I train athletes in almost every sport the Prep offers: fencing, rugby, wrestling, football, basketball, skiing, and so on.

In less than a year, CrossFit has brought several success stories to SJP. The team that CrossFits the most is the track team. I’ve trained a bunch of athletes in the

off-season and they are running and jumping much better with no injury. The rugby team works out at North Shore CrossFit in nearby Topsfield, Massachusetts. The Football team now has a "functional/dynamic" warm up. No more static stretching. Other teams look at them funny during their warm up.

Coaches come up to me from all sports commenting that the guys who have been CrossFitting are in great shape and ask what I did. Parents thank me for working with their sons; I point out that it's their son's commitment and hard work that got him in shape. I have alumni that come back to the Prep on their college break and workout with the boys. I get emails from alums telling me that they follow the WOD on the [SJP CrossFit blog](#).

I'm looking forward to seeing two wrestlers, the Harding brothers, have a record-setting season. The older brother, Ryan, has a shot at becoming the New England champion in his weight class. Younger brother, Doug, is coming off an injury but has high hopes for a great season. SJP Rugby won the New England Championship last year. We had a two football players do "Football Fran," which can be seen on the SJP CrossFit blogspot and on YouTube.

Starting last March, the Prep made a real, material commitment to CrossFit by refitting the gym. Putting my head together with Athletic Director and Head Football Coach, Jim O'Leary, we got rid of all the old Nautilus machines that were taking up so much weight-room space and ordered five new squat racks, which include built-in pull-up bars. Now we are able to accommodate more students and teach them the "functional lifts" in a much safer space. We still don't have any kettlebells, using dumbbells instead. Over the summer, I made training plates out of plywood so the younger, less experienced students can learn and practice their lifts. Using the directions from the CrossFit Journal, I also had our maintenance staff build eight plyometric boxes for the students. I even made a set of homemade rings. In June and July, I taught a five-week CrossFit fitness boot camp that was very successful in the school's summer institute.

On a personal note, CrossFit has also been very successful for me. In April, I attended Brian Mackenzie's Run/Endurance Certification at North Shore CrossFit, not only giving me a better understanding how to incorporate CF in the school's track and field program, but contributing to my best year of triathlon racing ever.



This past season, I had three sprint-distance 1st place wins and two 2nd places in the 35-to-39 age group. I was voted CrossFit Endurance's "Triathlete of the Year."

Next Fall: CrossFit 101

In September, I attended Mark Rippetoe's Basic Barbell Certification at CrossFit Boston. I now stress to my students the importance of the basic barbell exercises for strength and power. In November, I went to CrossFit South Brooklyn to attend Robb Wolf's Nutrition Certification. I've adopted the Paleo/Zone approach in my own training. Now the challenge is to get teenage boys to give it a try. This won't be easy.

All of this knowledge has made me a better athlete, teacher, and coach. I plan on attending a Level II certification in the future to further enhance my teaching and training skills.

I recently submitted a new course proposal from the Physical Education Department to the administration for the 2009-2010 school years. I sat down with principal Ed Hardiman and told him that I thought it was time that SJP gave students a chance to take an advanced Physical Education elective during the school year and get accelerated credit for it. He agreed, and CrossFit 101 will be offered as an elective next fall.

Won't it be exciting when a college admissions counselor asks one of our students, "So, can you tell me more about this CrossFit elective on your transcript?" Imagine the look on his face when the boy responds, "Sure, CrossFit is a functional strength training program that is constantly varied, performed at high intensity."

CrossFit 101 is an opportunity for students to better improve their mental, physical, and spiritual well being through kinesthetic movement along with relative academic literature.

In CrossFit 101, students will be required to keep a portfolio in which they will record their progress and times throughout the entire semester. The students will start the semester with a few personal goals in mind: weight loss, athletic improvement, strength, etc., and will use relevant literature and a CrossFit training regimen to attain their goals. Students will be encouraged to buy a subscription to the CrossFit Journal. The Journal will be their bible for the semester. The students will be required to hand in their portfolios for review along with a detailed report of the progress they made

during the semester. The training techniques and the knowledge the students will learn in this course can and will be taken with them for the rest of their lives so that they can choose to live a healthy and productive life.

I believe that CrossFit can be the future of Physical Education curricula and that every high school should have it as their strength and conditioning program. After all, it's all about improving the quality of life of our teens. Can St. John's Prep be the seed that helps to grow affiliate clubs in high schools all around the country and even the world? That's my dream.



About the Author

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Check out St. John's CrossFit at www.sjp-CrossFit.blogspot.com



Strong Medicine

Are you an intermediate or advanced CrossFitter who wants to get stronger? Try CrossFit with a Strength Bias (CFSB), which pairs regular CrossFit met-cons with extra-heavy weights.

Jeff Martin and Darrell E. "Bingo" White



080724 Comment # 635: M/48/153. "Fran" as Rx'd 9:12. Need to get some coaching on how to lower this number. Thrusters just TOTAL me. My problem seems to be strength (not enough), size (ditto), age (too much), and a rather embarrassing fragility that just will not be ignored. — Bingo

The above was my comment that initiated the process that led to this article. How many times have we read on the CrossFit.com comments about people who

think they need to do a separate strength program to get better at CrossFit? While we agree that increased strength will likely make you a better CrossFitter, the idea that you need to do a separate strength program is dead wrong. CrossFit is a strength and conditioning program. Says it right there in "What is CrossFit"!

Leaving CrossFit for the sole pursuit of strength in order to be a better CrossFitter is madness!

We've found that people who leave CrossFit to do a pure strength cycle do indeed seem to get stronger, but at the expense of overall fitness. Coach shared an example with us: Kelly Starrett, who has a clinical Doctorate in Physical Therapy and is owner of San Francisco CrossFit, did a pure barbell strength cycle for six weeks with no metabolic conditioning. At the end of the six weeks, he set PRs in all of his barbell lifts—but his Fran time had doubled.

It took Kelly another six weeks of highly metabolic CrossFitting (almost no barbell strength work) before he was back at the general performance before his barbell cycle. But—and this is one of our key points—at the end of the six weeks of CrossFit met-con, his barbell lifts were identical to what they were at the end of the strength cycle. There was no loss to his pure strength throughout his regaining of overall fitness.

Just as troubling is the experience of Axel Bear's cousin (weird nicknames over there at Brand X, eh?), an experienced CrossFitter who did a 5:01 Fran the week before starting a powerlifting only program. After six weeks and significant strength gains, he thought he'd "do a little met-con" just to keep his hand in it. He teed up "Fran" scaled to 75 pounds and crushed it. Oops... maybe not: 7:43.

A nearly three-minute deterioration in "Fran" in six weeks with less weight! That's downright disturbing. We believe that strength created in a vacuum is usable in a vacuum. The phrase, "Segmented training leads to segmented capacity," has been proven time and time again in our gyms, in the ring, and in life.

Does this mean that you can't gain specific strength without sacrificing overall CrossFit fitness, that raw strength hurts our ability to conquer whatever physical challenges we may encounter in our daily lives? Of course not. With a nod to the influence of Coach Glassman and strength giants like Rippetoe and Rutherford, we are proposing a shift in programming for those intermediate or advanced CrossFit athletes, who, for whatever reason, want to increase their pure strength without sacrificing other critical areas of fitness like endurance, stamina, and speed. It's called the CrossFit Strength Bias.

Why not beginners? Three reasons. The first is that beginners who properly follow standard CrossFit programming will gain significant levels of strength.



A perfect example of strength gains doing only WODs is the above Bingo, who increased his deadlift from 175 to 305 in his first year of CF doing only WODs.

The second is that almost all beginners who don't see adequate strength gains from standard CrossFit programming share one essential problem that has nothing to do with programming: They don't hit the strength days with sufficient intensity. This might occur because they don't have sufficient confidence in their technique or mechanics to push themselves to their limits, they don't use sufficient range of motion to maximize results, or they don't work hard enough.

Low intensity on the max effort days will blunt strength gains in the same way that low-intensity efforts on a chipper will blunt met-con development. In his travels, Jeff has noticed a trend in affiliate programming where specific strength training is absent. That is doing a disservice to clients, and indeed to CrossFit on the whole.

A day that asks for 5 sets of 5 deadlifts is asking for you to achieve a 5-rep max on that day. In order to get strong, you have to BRING IT on the 3-3-3-3-3, 5-5-5-5-5, and 1-1-1-1-1 days! If you have any desire to do anything extra after you finish a strength workout, you didn't go hard enough.

The third reason our program is for intermediate and advanced athletes is that it requires a mastery of the core exercises in CrossFit in addition to the high levels of intensity, a skill unto itself. It requires good technique in the slow lifts (back squat, deadlift, press), and an awareness of when form breaks down.

So, for the CrossFitter who has a need or desire to get much stronger much more quickly, who is unable to decrease his time on a benchmark “girl” because he just can’t move the weight any faster, or just can’t do the “hero” WOD “as Rx’d” because she can’t lift the weight, we introduce CrossFit Strength Bias. CFSB is the program that Jeff and his athletes have been using and fine-tuning for five years. It’s the program that Jeff altered to help his fragile, aged, under-strong friend Bingo become a better CrossFitter.



CFSB goal: Your “Athletic” — not absolute — max. That means increases and PRs in strength + Faster WODs

CFSB is CrossFit with a strength bias, in much the same way that CrossFit Endurance is CrossFit with an endurance bias. Make no mistake, however; this is CrossFit. We are adamant on this point. It should therefore come as no surprise that the foundation of

CFSB comes from some of the earliest CrossFit writings. Here’s Coach in “What is Fitness”:

“One of our favorite workout patterns is to warm-up and then perform 3-to-5 sets of 3-to-5 reps of a fundamental lift at a moderately comfortable pace, followed by a ten-minute circuit of gymnastics elements at a blistering pace, then finishing with 2-to-10 minutes of high-intensity metabolic conditioning. Another favorite is to blend elements of gymnastics and weightlifting in couplets that combine to a dramatic metabolic challenge. An example would be to perform 5 reps of a moderately heavy back squat followed immediately by a set of max reps pull-ups repeated 3-to-5 times.”

Given that, our CFSB goals are entirely consistent with basic CrossFit philosophy: long-term linear increase in strength as well as linear increases in the other nine general fitness parameters. The discrete strength goal is to see an increase in strength every week as measured by the following:

1. An increase in a 3-rep set from the previous week or a 3 rep PR
2. An increase in a 5-rep set from the previous week or a 5 rep PR
3. An increase in a single set of 12, 15, 20, or 21

Since we are CrossFitters, we also want to see a decrease in our times on benchmark CrossFit WODs, or, where applicable, an increase in the load moved on a WOD, both of which translate of course to more WORK—more area under the curve!

Recoverability is key, so back off after a PR

We have placed a very high degree of importance on recoverability in CFSB. The proper focus of CrossFit should be on getting better for life— more fit, more strong, etc. The workout is just the tool. The focus should be not on how much we CAN do, but how much we should do to achieve the training effect. If one set at your max achieves the training effects, then that’s all that’s needed that day. Move on. Proving that one can do more sets will not necessarily get more return from the training effect and may push you into overtraining, or worse, towards retrograde performance. The program is built with an eye on recoverability and the training

effect. On this program, you reach a PR and then shut it down. That is enough for the week.

As tempting as it is to continue piling on the weight when you feel good, a 5- or 10-pound PR is where we stop. Once you hit the PR, you're done for that day even if you feel great. You've asked your body to do something it hasn't done before and then backed off and allowed it to recover, get stronger, and then do it again next week. If you wear it out by continuing to add weight or do more sets at your new PR, you will adversely affect your recoverability.

So, if the protocol calls for 5 sets of 3 reps and you hit your PR on the third set, walk away. Again, the magic is in the stimulus, not the number of rounds. The intent of the program is to gently induce the training effect while maximizing recovery.

The weekly CFSB program follows a specific order:

Rest Day 1 > Back Squats > Deadlift > Rest Day 2 > long-ish Met-con > Front Squats > Shoulder Press

This program gives you plenty of rest before attacking the lifts. If you do any work on Rest Day 2, make it body weight- or gymnastics-centric.

Each of the lifting days begins with one of the lifts and includes a met-con as well as gymnastics/skill work. This is a strength program and the CFSB met-cons reflect that bias. We suggest short, heavy, brutal met-con sessions on lifting days. These will typically be couplets or triplets, but you could certainly visit the CrossFit Main Page (MP) and alter the WOD to achieve your strength objective (for example, 1/2 Angie as a bodyweight session, or a "Franish" 12-9-6 135-lb. thruster/24-18-12 PU). When choosing your CFSB met-cons you always need to be aware of which lift is coming up next. For example, HSPU or Thrusters might be great exercises to work into your met-con on a Back Squat day, but may not be the best choice for your Front Squat day since we do Front Squats right before Shoulder Presses.

It's entirely up to you how you wish to measure your "CrossFitness" over the course of CFSB. Some athletes will use the mid-week met-con as a weekly metric. Others will choose to do a series of benchmark WODs or explore 1-rep maxes at the end of each 6-week cycle.

Still others will alternate between CFSB and the MP WOD. Your call; it's still YOU VS. YOU.

Many Different Ways to do CFSB

Just as there is an infinite numbers of ways to measure your CFSB fitness, there is an infinite number of ways to execute the program. In fact, the athletes who have been involved in the development and testing of CFSB have done all kinds of stuff since we've started. You can do the MP or an affiliate's WODs and simply add the daily strength work to your workout; this would be similar to CrossFit Endurance, a supplemental program laid on top of the MP or affiliate WOD. You can follow the MP WOD and simply substitute a CFSB workout for one or two days in each 3-day cycle (this is the version that Bingo has been doing). Or, you could do full-bore CFSB. Here's how:

3 x 5 and 5 x 3 Days: These are choice days, the choice depending on how you are feeling that particular day. First you will have to choose which protocol you want to use that day. Our goal is to post a PR every week. We do this by see-sawing up the weight. For example, if you start the program with a 5-rep max Back Squat of 185 pounds and a 3-rep max Back Squat of 200 pounds, your progression might look like this:

Week 1
Back Squat
155 x 5
175 x 5
190 x 5 (pr)

Week 2
Back Squat
175 x 5
185 x 5
195 x 5

By Week 3, you might feel there is no way you could get 200 x 5. So try:

Week 3
Back Squat
195 x 3
200 x 3
205 x 3 (pr)

Week 4

Back squat

195 x 3

205 x 3

210 x 3 (pr)

Week 5

Back squat

195 x 3

205 x 3

215 x 3 (pr)

Week 6

You might return to sets of 5 again.

Connor Martin 310x3 Back Squat [[wmv](#)] [[mov](#)]

Connor Martin 330 Back Squat [[wmv](#)] [[mov](#)]

Mike Hom 505 Deadlift [[wmv](#)] [[mov](#)]

Use Ascending Sets: With 3 x 5 and 5 x 3 workouts, you would typically need to make a decision whether you will use ascending sets or sets straight across. Straight sets are hard. Not only are they hard on you at the time, but they severely tax your recoverability. Jeff has used straight sets with Connor to great success but pretty much everyone else (including Jeff) has failed using

straight sets. We therefore, with Jeff, Bingo, and most of the athletes in the CFSB trial, used ascending sets (the back squat example above uses ascending sets.) With ascending sets you work your way up to a single PR set. For CFSB we strongly recommend this approach.

1 x 20 Back Squat and Deadlifts

Goal: A set that gets you close to failure between 15 and 20.

10-7-5, 12-9-6, 15-12-9, 21-15-9 protocol

Goal: Unbroken sets.

Complete all reps if you cannot do the set unbroken. Take a 1-minute rest between completed sets. These are generally performed from one week to the next using the same weight until you finish the protocol, then start back over with a 5-to-10 pound increase.

By design, we are seeking competence at 3- and 5-rep max sets, as well as the ability to demonstrate strength endurance with 20-rep max sets. This reflects our emphasis on form, maintaining form under load, and recoverability, and is consistent with our CrossFit emphasis. The ability to move a heavy load multiple times should translate more effectively to CrossFit



benchmark WOD performance and, by extension, to life. While we only rarely explore 1-rep max efforts, we do believe that the CFSB emphasis on 3-, 5-, and 20-rep maxes does indeed translate to higher 1-rep max results as well, and our results seem to bear this out.

We'd like to be clear, though, that we are seeking to achieve what Coach has called "athletic maxes," the max effort results that are possible in an athlete concerned with general physical fitness and NOT the results that are possible for a strength specialist. Jeff describes this as "compressing the upper end" where a relatively small difference is likely to be seen between 1, 3, and 5-rep maxes.

For heavy Met-cons, let's again go to Coach:

"We can take you from a 200-pound max Deadlift to a 500-750- pound max Deadlift in two years while only pulling max singles four or five times a year. We will work the Deadlift, like most lifts, approximately once per week at higher reps and under grueling conditions. It may intuit well that if you can pull a 250-pound Deadlift 21 times coming to the lift at a heart rate of 180 beats per minute, then 500 pounds for a single at a resting heart rate is perhaps manageable."

Heavy met-cons are fun! They are also very productive. Did you see Connor at the games? The deadlift in the burpee/deadlift video was essentially twice his body weight. The 155-lb. Grace type workout was 5-to-10 pounds over his bodyweight. How could a 16-year-old complete these workouts when many grown men couldn't finish in the time limit? The answer is he was/is accustomed to this type of training. Forcing yourself to clean a heavy bar when your heart rate is jacked up is hard. But there is something very CrossFitty about it, don't you think?

Mike Hom and Jeff have been playing with heavy Met-cons for several years and comparing notes. Their first attempts started with a combination of sprinting and 1.5 times bodyweight Deadlifts and Muscle-ups. We have been having a great deal of luck with our heavy Met-cons. The idea of the heavy Met-con from our point of view is to implement a heavy weight within a typical met-con structure, to move a heavy weight under cardiovascular stress. There is no reason to put the weight down in Jackie except that you are breathing

really hard. As you get stronger, the same goes for Fran or Elizabeth. So, with our heavy met-cons, we pair a fairly heavy weight with a low-rep scheme, plus a quick cardio or explosive movement for a relatively short period of time. For example:

5 rounds
10 Box Jumps, 40"
5 Power Cleans, bodyweight

or

5 rounds
300 M run
5 Push Press, bodyweight

or

AMRAP 10 minutes
5 BW Front Squat
10 Pull-ups
15 Push-ups

The resulting workouts are interesting. For the stronger person, they have the same effect as Jackie. There is no reason to stop and rest or put the weight down because it's too heavy. You end up putting the weight down because you need to breathe. The results have been fascinating on both the strength front and the overall metabolic work capability. We have been able to simultaneously train to increase strength and maintain our fitness in the other nine areas of fitness.

Use gymnastics as a skill developer: Remember Coach's pyramid, the Theoretical Hierarchy of Development? We do! Gymnastics sits right between Weightlifting and Metabolic Conditioning. Perhaps we are throwbacks or strict constructionists, but we'd like to see more gymnastics in our workout sessions. Once the muscle-up is conquered, we might see an occasional clapping pull-up contest or handstand work when we take a look at other programs, but not much else. Gymnasts are the best in the world at controlling their bodies in space and we can learn a great deal from this. Pick some techniques and work them into your skill development time at the end of your session. Forward rolls, skin-the-cats, cartwheels, handstands, pull-overs. Play with these, either in an orderly fashion or just organically.

There is much to be gained from simply working these movements and the skill transfer moves associated with them. Light snatches, cleans, Sot's presses, and muscle snatches can be used in the skill development time as well. Example of a gymnastics/skill developer:

3 rounds (not for time)
10 Sot's presses
3 handstand attempts

or

1:30 total L-sit time

or

5 forward rolls

Make it fun and playful.



Getting Your CFSB Program Started

We should say again that we feel that CFSB is a program for intermediate or advanced CrossFitters. The program demands some prior knowledge of the athlete's strength limits. It involves heavy loads so proper technique is mandatory. Not only is it CrossFit, but it includes CrossFit met-cons performed with higher than usual weights. One must be accustomed to the unique intensity in CrossFit workouts to safely benefit from CFSB.

1. Entry Phase/Introductory Cycle: We recommend you initially run through one complete cycle at a reduced volume to become accustomed to the protocol, gradually increasing the workload each week.

One example of an introductory cycle would be the following:

Week 1: One-rep scheme of Deadlifts and Press

Week 2: Deadlifts, Press, Back Squats

Week 3: Deadlifts, both rep schemes of Press, Back Squats, Front Squats

Week 4: Both rep schemes of Deadlifts, Press, Back Squats, Front Squats

Week 5: Both rep schemes of Deadlifts, Press, Back Squats, Front Squats + Back Squats

2. Begin with the right weight: Selecting the appropriate starting weight for lifts is tricky. Some of the CFSB trial participants seem to have picked starting points that are too high. A guideline would be to select your starting weight at 15-20% less than your current PR. (An example, if your current 3x3 deadlift is 300 pounds, you may want to start the program with about 240 - 260 pounds).

3. Setting goals is key: CFSB is a CrossFit program; after all, we measure our outcomes. This is particularly important when choosing or designing the shorter met-cons that are included on your lifting days. If you are like Jeff and simply like lifting heavy weight, you can follow the general CrossFit prescription of "constantly varied..." and choose exercises essentially at random (being cautious to follow the guidelines regarding your choice of a met-con and your upcoming lifts). Or, if you are like Bingo and your goals involve improving your performance on a particular CrossFit benchmark WOD, you might skew your choice of exercises to achieve a specific training effect (for example: lots of heavy thrusters, front squats, and shoulder presses to improve your Fran).

Notes and Final Thoughts about CFSB

1. Form: This program is not about posting PRs; It's about posting correct PRs. On sets of three and five, form

should be good (not perfect, but good). Taking the time to build a correct foundation is not only appropriate, but necessary. It will pay dividends in the long run.

2. A structurally sound movement is necessary for safe, effective, and efficient weightlifting. A movement that is structurally unsound will break down at heavier loads, possibly causing injury. This is one of the reasons we believe that this is not a program for beginners.

Back Squats: The program was originally built around deadlifts. If you find there are too many squats, or you are uncomfortable with executing squats in your environment, then drop them. CrossFit emphasizes the posterior chain, and many of our most important benchmark WODs involve these movements. In addition, some of the best stand-alone strength programs are from Mark Rippetoe, and Rip is a huge squat fan. All things being equal, try to incorporate the squats.

Soreness and Recovery: You should be sore. Very sore. You are causing your body to adapt after every workout. That's tough and a lot will depend on the met-cons you choose, how you pick your sets, and the rest you get.

Have common sense. If your back or arms are too sore, scale it or skip it. If you can't get into a good start position for a lift even after a good warm up, skip the lift that week. Listen to your body.

We are seeking long-term gains in strength without losing our other fitness competencies. In order to do this we should be seeing small incremental linear gains over long periods of time. Don't be greedy. See the big picture and seek the long-term horizon.

CFSB Results

At the 2008 CrossFit Games, Bingo asked Jeff why he was no longer posting on the Crossfit.com comments section (this is one of Bingo's pet projects, trying to get more of the original CrossFitters to re-engage on the MP). Jeff's response was something about getting criticized for posting workouts that were different from the posted WOD, but he agreed to resume posting the following week (probably only because Bingo is a wretched nag!). In truth, the real reason that Bingo reached out to Jeff for the strength work that would help his Fran was that Jeff had already done exactly this

himself. Bingo remembered when Jeff posted his first wacky workout (a CFSB workout, as it turns out). Just like all of the other CrossFit results posted every day on Crossfit.com, Jeff and Bingo have actually been posting their results there every day since (we believe you have underestimated our sssnnneakiness!).

By the way, you're probably wondering, what ever happened with Bingo's Fran? You know, the one with the thrusters from the rack that was just barely under 10:00? Well, after one 6-week cycle of a scaled-down version of CFSB, Bingo did Fran as Rx'd (from a rack) in 6:43!

At the end of the day, we are CrossFitters because we believe that broad inclusive fitness will allow us to survive—nay, thrive—in our environment. We seek increased work capacity across broad time and modal domains, and we are not willing to sacrifice this work capacity for even the most significant gains in any one domain or competency. We, Jeff and Bingo, believe that one can dramatically increase strength WITHIN the CrossFit protocol WITHOUT sacrificing the other fitness benefits of CrossFit.

We did, as did the other subjects in our CFSB trial group.

So can you.

3-2-1...GO!



Darrell White, M.D. aka "Bingo," first logged on to Crossfit.com Jan. 1, 2006. An eye surgeon by profession, he became a Level I Certified Instructor this Fall. He is still embarrassingly small and fragile, but he is now less "under-strong."

Jeff Martin happily makes his living as a CrossFit Coach. He and his wife, Mikki, own CrossFit Brand X and have developed and run the CrossFit Kids program. Jeff, along with Mikki, maintains the CrossFit Kids website and the Brand X website where WOD scaling is provided to the CrossFit community. They also offer the CrossFit Kids magazine and certifications.

CFSB Programming

| | Back squat | Deadlift | OFF | Metcon | Front Squat | Shoulder Press | OFF |
|-------------------|---------------------|-----------------------------|-----|---------------------|-------------------------|-----------------------------|-----|
| Week One | Choose either: | 3 x 3 | | 20 min or less | Choose either: | Choose either: | |
| | 3 x 5 | 1 x 15-20 | | | 3 x 5 | 3 x 5 | |
| | 5 x 3 | | | | 5 x 3 | 5 x 3 | |
| | | | | | | | |
| | | | | | Back Squat | Choose one of the protocols | |
| | Metcon Less than 15 | Metcon Less Than 10 min | | | 1 x 15-20 | 10-7-4 | |
| | | | | | | 10=>15 Reps | |
| | | | | | Metcon less than 10 min | | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | | Metcon 20 minutes max | |
| | | | | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |
| Week Two | Choose either: | Choose either: | | 20 min or less | Choose either: | Choose either: | |
| | 3 x 5 | 3 x 3 | | | 3 x 5 | 3 x 5 | |
| | 5 x 3 | 3 x 5 | | | 5 x 3 | 5 x 3 | |
| | | | | | | | |
| | | Choose one of the protocols | | | Back Squat | Choose one of the protocols | |
| | Metcon Less than 15 | 12-9-6 | | | 1 x 15-20 | 10-7-4 or 12-9-6 | |
| | | 12=>15 Reps | | | | 12=>15 Reps | |
| | | | | | | | |
| | | Metcon Less Than 10 min | | | Metcon less than 10 min | Metcon 20 minutes max | |
| | | | | | | | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |
| Week Three | Choose either: | Choose either: | | 20 min or less | Choose either: | Choose either: | |
| | 3 x 3 | 3 x 3 | | | 3 x 5 | 3 x 5 | |
| | 3 x 5 | 3 x 5 | | | 5 x 3 | 5 x 3 | |
| | | | | | | | |
| | | Choose one of the protocols | | | Back Squat | Choose one of the protocols | |
| | Metcon Less than 15 | 15-12-9 or 12-9-6 | | | 12=>20 Reps | 10-7-4 or 12-9-6 or 15-12-9 | |
| | | 12=>15 Reps | | | | 12=>20 Reps | |
| | | | | | | | |
| | | Metcon Less Than 10 min | | | Metcon less than 10 min | Metcon 20 minutes max | |
| | | | | | | | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |
| Week Four | Choose either: | Choose either: | | 20 min or less | Choose either: | Choose either: | |
| | 3 x 3 | 3 x 3 | | | 3 x 5 | 3 x 5 | |
| | 3 x 5 | 3 x 5 | | | 5 x 3 | 5 x 3 | |
| | | | | | | | |
| | | Choose one of the protocols | | | Back Squat | Choose one of the protocols | |
| | | 21-15-9 or 15-12-9 | | | 12=>20 Reps | 12-9-6 or 15-12-9 | |
| | Metcon Less than 15 | 15=>21 Reps | | | | 12=>20 Reps | |
| | | | | | | | |
| | | Metcon Less Than 10 min | | | Metcon less than 10 min | Metcon 20 minutes max | |
| | | | | | | | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |

Strong Medicine (continued)

| | Back squat | Deadlift | OFF | Metcon | Front Squat | Shoulder Press | OFF |
|-------------------|---|---|-----|---------------------|---|--|-----|
| Week Five | Choose either: 3 x 3 3 x 5 | Choose either: 3 x 3 Choose one of the protocols 21-15-9 or 15-12-9 15=>21 Reps | | 20 min or less | Choose either: 3 x 5 5 x 3 | Choose either: 3 x 5 5 x 3 Choose one of the protocols 10-7-4 or 12-9-6 12=>15 Reps | |
| | Metcon Less than 15 | Metcon Less Than 10 min | | | | Metcon 20 Minutes max | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |
| Week Six | 5-3-3-1-1-1-1 | 5-3-3-1-1-1-1 | | 20 min or less | Choose either: 3 x 5 5 x 3 | 5-3-3-1-1-1-1 Metcon 20 minutes max | |
| | Metcon Less than 15 | Metcon Less Than 10 min | | | Back Squat 1 x 20 Metcon less than 10 min | | |
| | Gymnastic/Skill Dev | Gymnastic/Skill Dev | | Gymnastic/Skill Dev | Gymnastic/Skill Dev | Gymnastic/Skill Dev | |
| Week Seven | Return to week one continue linear or wave progression | | | | | | |
| | Reset at week one and begin new linear or wave progression | | | | | | |
| | Rest week or 1/2 volume week | | | | | | |
| Week Eight | If rest week, week 7: | | | | | | |
| | Return to week one continue linear or wave progressionprogress | | | | | | |
| | Reset at week one and begin new linear or wave progression | | | | | | |

Strong Medicine (continued)

| | Deadlift Start | Deadlift Finish | Back Squat Start | Back Squat Finish | Front Squat Start | Front Squat Finish |
|-----------------------|----------------|------------------------------------|------------------|-------------------|-------------------|--------------------|
| Male, 49, 170# | 345 x 1 | 410 x 1 | 265 x 1 | 345 x 1 | ? | ? |
| | 325 x 3 | 405 x 3 | 230 x 3 | 315 x 3 | 175 x 3 | 235 x 3 |
| 3 cycles | 305 x 5 | 375 x 5 | 215 x 5 | 280 x 5 | 155 x 5 | 225 x 5 |
| | 185 x 20 | 325 x 15 | 185 x 20 | 245 x 20 | | |
| 5 years CF | | | | | | |
| Metcons Tested | Elizabeth | | | | | |
| Start | 5:36 | | | | | |
| Finish | 4:27 | | | | | |
| | Sumo stance | Standard DL | | | | |
| Male, 17, 160 | ? | 330 x 1 | ? | 330 x 1 | ? | ? |
| | 285 x 3 | 320 x 3 | 275 x 3 | 310 x 3 | 235 x 3 | 265 x 3 |
| | 280 x 5 | 315 x 5 | 235 x 5 | 290 x 5 | 215 x 5 | 245 x 5 |
| 2 cycles | | | | | | |
| 5 years CF | | | | | | |
| Metcons Tested | Fran | | | | | |
| Start | 3:52 | | | | | |
| Finish | 2:30 | | | | | |
| Female, 40, ? | 240 x 1 | 265 x 1 | 175 x 1 | ? | 135 x 1 | 155 x 1 |
| | 235 x 3 | 240 x 3 | 155 x 3 | ? | 115 x 3 | 150 x 3 |
| 1.5 cycles | 215 x 5 | 225 x 5 | 145 x 5 | 180 x 5 | 105 x 5 | 150 x 5 |
| 5 years CF | | | | | | |
| Metcons Tested | | | | | | |
| Start | | | | | | |
| Finish | | | | | | |
| Male, ?, 165 | ? | | | 275 x 1 | | |
| | 275 x 3 | 320 x 3 | | 250 x 3 | 175 x 2 | 195 x 3 |
| 2 cycles | 275 x 5 | 320 x 5 | 170 x 5 | 230 x 5 | | 180 x 5 |
| 3 cycles on DL | | | | | | |
| 1 year CF | | | | | | |
| Metcons Tested | Diane | Murph | | | | |
| Start | @20:00 | 34:00 | | | | |
| Finish | 9:56 | 31:51 (with Chest to bar pull-ups) | | | | |
| Male, 26, 175 | 375 x 1 | 405 x 1 | 295 x 1 | 325 x 1 | 225 x 1 | 245 x 1 |
| | 305 x 3 | 395 x 3 | 295 x 3 | 310 x 3 | 205 x 3 | 240 x 3 |
| 1.5 cycles | 305 x 5 | 335 x 5 | 255 x 5 | 280 x 5 | 165 x 5 | 210 x 5 |
| 5 years CF | | | | | | |
| Metcons Tested | | | | | | |
| Start | | | | | | |
| Finish | | | | | | |
| Male, 26, 175 | 305 x 1 | 355 x 1 | 465 x 1 | 505 x 1 | 285 x 1 | |
| | 305 x 3 | 335 x 3 | 405 x 3 | 450 x 3 | | 300 x 3 |
| 1 cycles | 285 x 5 | ? | 405 x 5 | | | 275 x 5 |
| 5 years CF | | | | | | |
| Metcons Tested | | | | | | |
| Start | | | | | | |
| Finish | | | | | | |

All (Mistakenly) Bow to Fran

In a system built on continuous variety, is it a danger that the classic 21-15-9 thruster/pull-up WOD, CrossFit's highest power-output workout, has become so important?

Justin Lascek



As we all know, "Fran" is one of the classic benchmark CrossFit workouts that combines a weight lifting movement with a calisthenic movement. The rep range of 21-15-9 developed by Greg Glassman is known for its ability to improve metabolic conditioning, but it also helps maximize work capacity. The thruster epitomizes the idea of moving a "large load a long distance quickly" (another concept vital for power production), while the kipping pull-up requires a coordinated and eloquent full-body "wave of contraction" to be done quickly and effectively. Fran has captured the hearts of most, if not all CrossFitters. This bothers me.

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Fran appeared as the WOD on the main site on September 15th, and there were over 1,000 posts to the comments. On December 3rd, the number of posts was over 900. Why is that? What is the allure of Fran? Why the hell is it so popular?

Before we get into all that, I think it's relevant that you know a little bit about me. I've been CrossFitting since late March of 2008, and even though my CrossFit career is relatively short, I consider myself to be in the upper percentile regarding performance. Prior to December 3rd, my PR on Fran was 2:30, Rx'd on June 24th. I did that on my second try. Whoop-dee-doo, right?

Since then I did Fran at a Level I Certification (after doing bottom-to-bottom Tabata Squats), and I ripped my hands apart due to high humidity and baby-soft palms. I somehow managed a bloody 3:47 Rx'd. After the certification, I opened an affiliate with my co-owners and hit a 2:57, Rx'd on September 9th a day after doing "The Chief." (For those of you who did "The Chief," you should remember it).

So, do you see the problem so far? I've put Fran on a pedestal already by using it to describe myself for this article. I've defined my CrossFit existence to you, the reader, by talking about my experience with Fran. And I hate myself for it.

December 3rd rolls around, and Fran is the WOD. Long story short, I'm anticipating Fran as if I'm getting prepared to play a NFL playoff game. My adrenaline was pumping, and I hadn't even finished breakfast. Fast forward a few hours later, and it was finally game time. I cranked out Fran in unbroken sets, and collapsed on the floor. My good ol' pal AC ran up to shout out my time; 2:15. I lie on the ground, doing the typical "I'm a fish sucking air" bit while my hands undergo a compressing pain, but I feel victorious. As a CrossFitter, I'm sure you know this feeling. I'm sure you've come to love this feeling.

Well, AC and I videotaped my workout. I was interested in seeing what my form looks like in an all-out effort. It looks pretty good, real good in fact...right up until I did only 12 reps for the second set of thrusters. I remember my thought process during that set. I was strategizing my effort, and I lost count of my reps. I thought I was off by a rep or so, but couldn't know for sure. It's not like I was going to stop and ask my two-person audience what rep I was on. The tape showed me I was off by

three friggin' reps. Look, it's not like I expected to be the second person to get a sub 2:00 Fran. But, damn it, I thought I had a PR. I immediately started brooding.

Do you see the problem again? Fran has become so important to our community, and to me, that by not PR'ing on the workout I've turned into an irritable jackass. Fran has seemingly developed into the quintessential CrossFit workout. In the Globo Gym, you'll be greeted with, "Hey, how much do you bench?" In CrossFit it's, "Hey, what's your Fran time?" But why is it so important? Why does it sit on that pedestal?

Power-wise, Nothing Else Comes Close

The first thought that comes to mind is this: it's damn hard. Fran is not an easy workout. And it gets even worse because the better you get at it, the worse you feel afterwards. Fran epitomizes the classic "love/hate" relationship in life. The few seconds after you get off the bar after the last pull-up, whether you tried it for the first time, have a firefighter's outfit on, or hit a PR, your thought process is something along the lines of, "Well, that was a dumbass idea." But then you love the feeling you get when you exert yourself to your maximum potential, especially if you stand (or lie) victorious. As humans we feel successful after doing something that is damn hard, and Fran is no exception.

One of the most compelling characteristics of Fran is that it produces an insane amount of power. This is why such a short workout can literally rock your face off. Have you ever calculated your power output on Fran? Here are some numbers that reflect my PR of 2:30 (using this [Work & Power Output Calculator](#)):

| Power Output | |
|--------------|--------|
| Body Weight | 193 |
| Watts | 379.4 |
| Horsepower | 0.52 |
| ft-lbs/sec | 279.83 |

Table 1

Footnote here: This power calculator generates approximate numbers as it doesn't take anthropometry (limb length in addition to height and weight) into consideration. It is, though, precise enough for the relative calculations and conclusions of this article.

Turn that power into thermal energy, and that's enough energy to heat .658 gallons of water by 10 degrees Fahrenheit. Ok, maybe that's not so cool, but that power converted to mechanical energy will allow a 3,000 pound car to move at 20.46 miles per hour (according to the [Energy and Power Conversion Calculator](#)). I don't know how to calculate that, but the point is that we have a relatively high work capacity during Fran, and if you compare it to other workouts, they won't come close.

Maybe that is the allure of Fran. Nothing else will put a hit on our musculature and energy systems like this metabolic conditioning gem. It's damn hard because we're producing so much, and that's why we like it. We like workouts that increase our ability to do work, because that is the whole premise of what CrossFit methodology stands for. But has it developed into something more?

When I failed at Fran on December 3rd, I felt like I was running down an open field ready to score a winning touchdown, except I fumbled the ball. When I give you this simile it makes sense to you because CrossFit has developed into the sport of fitness. "Men will die for points," is what Coach Glassman so famously said. Indeed they will. I've bloodied myself silly multiple times for the ever-truthful stopwatch.

In that sense, many of you are just like me. You also probably scour the comments in search of anyone that hammered out a faster time than you. People like us not only want to see a PR on every workout, but they want to try and sit at the top of the field. CrossFit has inevitably promoted a friendly competition not only against yourself, but with all CrossFitters. And that's OK! There's nothing wrong with that. As long as you're not a pompous ass (which I've never run into in this 'sport'). I just hope that we don't lose sight of the true purpose of why we CrossFit.

"Increased work capacity across broad time and modal domains."

IWCABTAMD. That's why we CrossFit. If you've had the pleasure of attending a Level I Certification, the trainers will make sure this idea is ingrained in your head. When Coach Glassman experimented with creating workouts, the above statement was his only goal for his athletes (if using a Smith machine was going to increase work capacity most effectively, then he'd probably use it. Well, probably not, but you get the point...). Everything we do within this methodology revolves around increasing our ability to do work by doing lots of functional movements over an array of time periods. Period.



This should be —and actually is—our *only* goal. We don't do it to look better, to feel better, or to be healthier. These things are merely resultants of our ever-increasing work capacity. In order to increase that work capacity, we need to stress our musculature and our energy systems from all perspectives. We constantly vary our approach because we want to adapt to a varied stress to literally be ready for anything. CrossFitters know that this means we'll always be doing something different. That's why some of us sit at the computer and hit refresh at night waiting for tomorrow's WOD. (And if you're me, you downloaded a browser tool that can refresh every five minutes automatically...).

Now, let's think of the implications of the premise of CrossFit. We constantly vary our workouts to constantly vary the stress. We certainly don't want to specialize in one kind of stress, because we want to be capable to handle all stresses (from a musculature and energy systems perspective). This inherently means that one workout doesn't have precedence over another. One could even say that one workout should not be placed on a pedestal above the others. Do you see where I'm going with this?

The last thing I wanted to do after failing to complete a PR Fran correctly was calculate the power output. However, I think it's helpful to do so. Here is a comparison between my 2:30 Fran, and my attempt that had three less thrusters at a time of 2:15:

| Power Output | | |
|--------------|----------------|-----------|
| Workout | 2:30 Rx'd (PR) | 2:15 (DQ) |
| Body Weight | 193 | 197 |
| Watts | 379.4 | 409.02 |
| Horsepower | 0.52 | 0.56 |
| ft-lbs/sec | 279.83 | 301.68 |

Table 2

As you can see in the table, my power output went up in my disqualified attempt at Fran. If I look at my latest performance as a competitive CrossFit athlete, it's a bummer because it doesn't count. But if I look at it while remembering the true purpose of CrossFit (IWCABTAMD), then this, my friends, is a victory. Yes, my output would have been higher still had I done it



correctly, but even with the minor hiccup I am increasing my ability to do work.

But does Fran deserve to be known as the WOD that has the highest work output?

Well, I had to know. I continued to use the Catalyst Athletics Power Calculator to calculate the work output of some of the benchmark WODs. I was limited by what exercises could be inserted into the calculator, by using only myself as the only data source, and not scouring all of the WODs I have ever done and just sticking to the benchmarks that were usable. I want to preface the following by stating that I am in no way attempting an exuberant display of statistical analysis. Besides, I left grad school before I took that class. Here is what I found:

Please note that I've included the number of times I've completed each workout to give you an idea of my experience with the physical and metabolic demands. It's quite clear to me why Linda and Elizabeth have a low output since a) I am and was relatively weak at deadlifts and b) inexperienced with the full clean during a met-con respectively (but also because that's what we would expect out of Linda). However, this is still an interesting anecdotal piece of data.

For the most part, the WODs below that have a low power output caused me to suffer more *during* the workout and recover relatively quickly afterwards. Furthermore, the WODs with a higher power output caused me to suffer more *after* the workout, although during the workout I wasn't in as much relative physical

| WODs | Result | Completions | Power Output | |
|-----------------------|--------------------------|-------------|--------------|------------|
| | | | Horsepower | ft-lbs/sec |
| Linda | 33:18 Rx'd (BW=192) | 2 | 0.11 | 58.71 |
| Elizabeth | 8:48 Rx'd | 1 | 0.20 | 108.92 |
| Angie | 11:34 Rx'd | 3 | 0.21 | 115.88 |
| Isabelle | 4:47 Rx'd (Power Snatch) | 2 | 0.22 | 119.18 |
| Tabata Something Else | 481 Reps, Rx'd | 2 | 0.24 | 131.04 |
| Karen | 6:26 w/ 25# ball | 3 | 0.24 | 128.86 |
| Diane | 4:47 Rx'd | 1 | 0.25 | 138.09 |
| Cindy | 25 rounds, Rx'd | 3 | 0.28 | 154.38 |
| Grace | 2:57 Rx'd | 1 | 0.40 | 218.91 |
| Fran | 2:30 Rx'd (PR) | 2nd Try | 0.52 | 249.83 |
| Fran | 2:15 (DQ) | 4th Try | 0.56 | 301.68 |

Table 3



pain (apparently it's all relative, huh?). This concept alone could possibly act as a catalyst for all kinds of discussions regarding varying levels of work output and the response from our bodies.

Does this hold true for all CrossFitters? I don't think it could. The human body is awesomely complex and people are incredibly different, even if they have the same anthropometry. However, my initial reaction is that this may commonly occur in the upper echelon of CrossFitters, yet I am unable to quantify what that echelon actually is. Regardless, I found out that not only is "Fran" a workout that has the highest power output for me, but my failed "Fran" attempt yielded a higher output than my previous PR.

Bottom line: One workout is not enough

I learned a few lessons after realizing this. First and foremost, as a competitor or as a person trying to succeed in this world, there will be victories and failures. However, your perception of those victories and failures will define your personhood, your character, and your ability to persevere and continue striving for success.

Secondly, the hype surrounding Fran is stupid. I'm as guilty as anyone for putting Fran on a pedestal, but I've gained some perspective on the matter. It's just another workout that is helping me, and all CrossFitters, increase their work capacity. We can still shovel more rock than the average bodybuilder, power lifter, endurance athlete, and average person because of this.

This brings me to my third, and most important, point; CrossFitters shouldn't train for one particular workout. Have you ever heard the story of someone doing Fran once a month or more to "bring their Fran time down"? What about the guy that has the killer Fran time but is mediocre at best in all of the other benchmarks? Or perhaps someone who focuses on producing an ungodly "Fight Gone Bad" score while neglecting other WODs?

Andy Stumpf preached to my Level I Certification last year by stating that the people who are selective with which CrossFit workouts they finish are missing the whole point of CrossFit completely. Broad time and modal domains indeed, Andy. If a CrossFitter trains for one workout specifically, he's specializing his ability, and that's the opposite of what we're trying to accomplish.

I like to think of the "10 General Physical Skills" as a spherical continuum of fitness. We want to enhance

that sphere as a whole—not make it into a cone. There are some people that enter CrossFit with a fitness bias towards strength or cardiorespiratory endurance, but that doesn't mean they should focus on one workout in particular to even out their fitness sphere.

For those of you that are training for Fran, or any other workout, keep the true essence of CrossFit in mind. Remove Fran from the pedestal that it sits on. We want to increase our ability to do anything and everything, not just one thing. We can still compete in the sport of fitness without specializing, because if you're overly good at only one thing, it doesn't mean Jack. Don't lose sight of that.

OK, enough talk. Let's get back to (constantly varied) training.



About the Author

Justin Lascek (pictured below following his latest Fran) is a 22 year old CrossFit Level II trainer who graduated from Georgia Southern University in the Department of Health and Kinesiology. He loves CrossFit, peanut butter, and Guinness (not at the same time). If she asked, he would not go on a date with Fran, even if she was polite about it.



the **CrossFit** JOURNAL ARTICLES

Best of CrossFit: Russell Greene edition

A mind- and body-strengthening journey into the *real* "Real World"

Russell Greene



Karen and I entered the local R.G. Burger for an epic post-CrossFit Games cheat meal. We had spent the last 48 hours with the most hard-core CrossFitters in the world at the CrossFit Games. I had little skin left on my hands and had difficulty getting out of chairs. Karen had executed 25 reps in the clean and jerk at a weight that a few months earlier had exceeded her max.

We examined the strange people sitting around us in the restaurant. The couple next to us was discussing shopping malls and ice cream vendors. Not a single person in the restaurant looked as if he had ever done a muscle-up. It was as if they were Martians. I turned to Karen and said "We're back in the real world, and I don't like it."

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CrossFit is a Mind Game

To the uninitiated, advanced CrossFitters look like physically imposing athletes performing strange exercises at high speeds. It doesn't seem like there's much of a mental component to the sport.

Nonetheless, success at CrossFit is a mind game. Three main prerequisites for success at CrossFit are intensity, technique, and nutrition. Intensity comes from a deep-seated desire within the athlete to overcome the pain of the present in return for a faster time or heavier lift. Technique begins with learning the movements conceptually and is ingrained through consistent practice. Finally, success with nutrition is primarily contingent upon psychological discipline. All of these components are mostly mental affairs. Combine them in one person and you get athletes like [Nicole Carroll](#), [James Fitzgerald](#), and [Greg Amundson](#).

The philosophy and training of CrossFit changes lives. This psychological transformation is key to our community. It brings us closer to each other and farther apart from most everybody else. In my case, only a few of my friends don't do CrossFit. I'm still working on them.

Pre-CrossFit: Mentally Weak

Physical training is so fundamental to my life now that it's hard to think of who I was before it, or what type of person I would be without it. Whatever the opposite of a natural athlete is, that was me. In elementary school, I was always picked last for any sport we played during recess. During the several years that I played baseball, I'm not sure if I ever hit the ball. I kept my Presidential

Fitness Test results from the 5th grade: 50% percentile, perfectly mediocre. The psychological effects of my weakness were more pernicious than the physical effects. I was an unconfident, self-pitying geek.

At 13 years old, I vowed to rectify this situation. I joined the local YMCA and used all the weight machines there. My upper body strength increased but I made little progress as an athlete.

Mentally, I was still very immature. I was living near New York City when Al Qaeda attacked us on 9/11. I was volunteering at a local hospital at the time and I rushed over to see if they needed help dealing with a sudden influx of patients. From that hospital, I could see the smoke of lower Manhattan. Several dozen people from my town died. While I now consider the terrorist attacks to be the most important moment of my life, I don't remember feeling any deep emotions about it at the time other than shock.

Soon after the attacks, the War on Terror began. Even though I read the *New York Times* every day, it was easier to ignore what was going on in Iraq and Afghanistan than to actually think about what these events meant for my country. I decided that if there ever were a military draft, I would do my best to avoid it since I didn't care about anything other than living a long and easy life. It makes me sick now to think how mentally weak I was back then.

In the Beginning

I first stumbled upon CrossFit.com six years ago, around my 16th birthday in 2002. I remember reading "[What is Fitness](#)" like it was a revelation. I was almost immediately convinced. At the time, the only CrossFit gym in the world was the original HQ in Santa Cruz, so I was doing stuff like high-rep cleans and one-leg squats on my own with only grainy videos as instruction. Given my form, it was not the most effective training, but it taught me a lot about what I could accomplish on my own initiative.

I started before the launch of the current CrossFit site. The old site was a lot uglier. You can still access the [old Workouts of the Day here](#). I recommend reading through those WODs and trying some of them out. Some say that the WODs have gotten harder since then, but those old WODs are scorchers.

You'll notice that there's a quote above most of the workouts. Some of them are from athletes or coaches, but many of them have nothing directly to do with

sports. For example, [this WOD](#) features a quote from John Wesley that is especially appropriate to CrossFit trainers: "Catch on fire with enthusiasm and people will come for miles to watch you burn."

These quotes remind us that from the beginning, CrossFit has been a philosophical movement as well as a fitness program.

Celebrating What Works

Central to CrossFit is its epistemological model. This is a fancy way of describing how we know what we know. CrossFit asserts that meaningful statements about fitness must be based upon performance data. Our performance data is primarily available in the comments section of every Workout of the Day. It has been clear for years that the [WOD comments](#) offered a unique look into the development of elite fitness.

Outside of CrossFit, people usually evaluate each other's statements in a non-scientific matter. The argument by authority is very popular. People turn to institutions or experts for knowledge rather than testing what works on their own. CrossFit's simple, but groundbreaking assertion is that we should evaluate fitness programs according to the performance data of their athletes. This approach is disturbingly uncommon in the non-CrossFit fitness world. Coach Glassman's post on "[Evidence Based Fitness](#)" elaborates on this concept.

A corollary to CrossFit's epistemological model is the realization that one can obtain elite fitness anywhere. As Coach Glassman says, "There is greater potential for serious strength and conditioning in a two-car garage than nearly all commercial health clubs or gyms." Fitness institutions do not have a monopoly on truth or effective programming. In fact, their bureaucratic organizational

structure impedes their efficacy by limiting their experimentation and adaptation.

Coach Glassman's father, Jeff, has written extensively on the subject of scientific epistemology. I highly recommend his CrossFit Journal interview and article on the subject for those interested in a deeper look at this philosophy: [Science and the Rest Day Discussions](#) and [Conjecture, Hypothesis, Theory, Law: The Basis of Rational Argument](#). I consider Jeff Glassman's concepts here to be the philosophical backbone of CrossFit. One of his main points should be familiar to most serious CrossFitters: "Science is never about voting, the popularity of a belief, or even beliefs themselves. Models are never validated by consensus, but by facts satisfying predictions."

CrossFitting Your Life

The CrossFit philosophy is not exclusive to fitness. Applying the CrossFit philosophy to the rest of my life has led me to some unsettling conclusions. For example, this May I will graduate from Georgetown University. This education has come at an extraordinary opportunity cost: four years of my life and roughly \$180,000. Most people would say that a Georgetown education is worth such a sacrifice. Georgetown is "a good school," they claim. Yet just as with CrossFit, I could have achieved a better education more quickly and much more cheaply out of my own house. Unfortunately, I didn't realize this until the spring of my junior year.

The books that we read are all available on Amazon at very low rates if you buy them used. Most students don't do the readings very carefully anyway, since, unlike CrossFit, there is rarely any day-to-day accountability for poor performance. Georgetown is supposed to have a top Arabic language program, but I have learned



far more Arabic from independent research and free websites than I have from my classes. We are expected to learn from classroom discussions with our peers, yet I have found a higher standard of debate in many of the CrossFit rest day discussions.

This experience has left me extraordinarily skeptical of institutions in general. What use are these hierarchical academic institutions in the age of open-source information? Just as you can achieve elite fitness in a garage gym, you can get an elite education in many subjects from your home. Of course, most of us don't go to college to get an education; we go there to acquire pieces of paper. I hope that in time people will realize that a college diploma is often just as useless as an ACE accreditation.

Conclusion: Valuing real results, not appearances, develops the character we need

I still am far from where I plan to be. My discipline on the Zone Diet is far from Greg's or Nicole's. I still have workouts where I realize afterwards that I could have pushed harder. None of my PR's are impressive when compared to a Chris Spealler or Jason Khalipa. But when I compare myself to where I was six years ago, I barely recognize the person I once was.

CrossFit has taught me to be a skeptic towards establishment thinking. If so many successful and educated people could be so wrong about fitness, then I could no longer rest comfortably with any of the other assumptions that we classify as common knowledge. I do not automatically assume such beliefs to be wrong but rather do not assume them to be right. My standard is the same evaluating a statement about foreign policy as it is about fitness: I want to see logical, data-based arguments. When evaluating arguments I care about little else. This approach requires much more critical thinking than the alternative; it also goes counter to what many other people tend to do.

Contrary to CrossFit, American society is more concerned with *appearing* a certain way than with being that way. It is image-oriented rather than performance-oriented. This approach doesn't cut it with CrossFit.

The most important change from CrossFit for me is that my mental strength is miles ahead of where it was in 2002. Repeatedly pushing your body to its limits is psychologically rewarding in a way that few other activities are. Our obsession with performance data provides an unusual rigor to our efforts. Because we measure our

performance data, we know almost immediately if what we are doing is effective. Furthermore, our performance is ultimately our own responsibility as individuals. It is up to us how hard we push ourselves, how high we hold the standard for form, and what we eat. This experience teaches lessons that can be applied to the rest of life.

CrossFit caused a marked change in my outlook on life. Whereas I previously cared for little other than my personal security and happiness, such a worldview is anathema to me now. Though I cannot entirely ascribe this change to CrossFit, it played a very large role.

The examples of other members of the CrossFit community have made a big impression on me. There are few other communities where the sacrifices and achievements of members of the U.S. military are valued as much as within CrossFit. It is amazing how easy it is to grow up in certain parts of the U.S. completely isolated from our nation's military. At Georgetown, where I study international politics, the American SOF units are almost never mentioned in my classes, even in those focusing on the War on Terror. People who graduate from Georgetown become investment bankers, consultants, lobbyists, or lawyers; they rarely serve in the military. It's no surprise that they only want to talk about the U.N. and international law; what could be stranger to them than the idea of a special operations team?

The contrast with CrossFit is remarkable. Our social hierarchy is reversed from the environment that I grew up in. We hold Green Berets and SEALs in the highest regard. I remember first seeing the hero [WOD Murph](#) come up on the main site and reading about Operation Redwing. The story is tragic, yet at the same time it is inspiring in that it shows the level of sacrifice that the human spirit is capable of.

CrossFit has shown us that a small group of passionate people can change the world. Similarly, the War on Terror is largely based upon small groups of highly motivated men. Compared to the U.S., Al Qaeda is materially weak. But it consists of small groups of men who are willing to fight and die for its cause. On September 11th we saw that 19 men who are willing to die can do large-scale damage to the most powerful nation-state in the world. But, as long as our operators capture and kill aspiring terrorists before they get a chance to act, we will be safe from their attacks.

What we are doing with CrossFit goes much deeper than physical fitness. The war against Al Qaeda and

their ilk is a test of our national character. There are two questions that we must answer as a country. The first is whether we will have the political will for this long war. The second question is whether we will be able to consistently produce enough of the type of men that find and kill terrorists.

My experience suggests that CrossFit develops the quality of character we need to win this war.



About the Author

Russ Greene is a Level One Certified CrossFit trainer who is graduating this May from Georgetown University with a major in International Politics and foreign language proficiency in Arabic and Spanish. Russ competed in both the 2007 and 2008 CrossFit games, coming in 53rd place in 2008.

He writes for the blog insurgentconsciousness.typepad.com which focuses on criminal and terrorist networks.



The Straight-Talk Strength Express

At Rip's Barbell Cert, you get the brutal, blunt, no-bull basics for getting strong

Russell Berger



With a dingy, window-less metal exterior and small parking lot, the Wichita Falls Athletic Club looks more like a local hardware store than a training facility. I considered that a good sign—and walked in through the front door.

Nothing about this place was pretty, new, or comfortable. The interior was worn and garnished with photos of handlebar-mustached power-lifters, trophies, and odd objects that must have held some meaning to those who trained here. Well-used equipment was packed wall-to-wall, and long racks of aged barbells lined the room like spears. I felt like I was touring a medieval torture chamber—an even better sign. Because this seemed like the kind of place where real work was done.

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The man behind this facility is Mark Rippetoe, CrossFit's resident strength expert and a walking stereotype of a strong, gruff Texan. I was here for his "Basic Barbell Certification," a course Rip designed to teach participants what he refers to as "weighted human movement:" the Squat, Press, Bench Press, Deadlift, and Power Clean.

With the help of Dr. Stef Bradford, who holds a PhD in Pharmacology from Duke University, plus several CrossFit HQ staff, Rip's cert was a 19-hour immersion into the world of doing, coaching, and programming for strength. Our class was a diverse group of 22 participants ranging from high-school strength coaches to members of the military from as far away as Great Britain and Australia. Thanks to Rip's unique character and passion for these lifts, we all walked away with hours of practical experience, more industry wisdom than we knew what to do with, and a healthy exposure to North Texas barbecue.

Rip looks like he was forged from cast iron and then wrapped in leather to pass as human. This is probably a side-effect of his 30-plus years in the business of moving massively heavy objects, but at first glance it makes him a little intimidating. He does, however, work crowds like a pro. Strongly opinionated, and with the tendency to speak his mind with brutal honesty, his sarcasm can be hilarious. When asked by one of the class if a Seated Press was an acceptable substitution for clients having trouble stabilizing their lower bodies during the Standing Press, Rip responded without pause: "That is a phenomenally stupid question." To give Rip credit, it was a stupid question, and he explained that one of the major reasons for incorporating the press into workouts is to test and fix such a weakness. This lack of sugar-coating, however, made learning the ins-and-outs of biomechanical physics, a dry subject by most accounts, pretty damn entertaining.

Aside from his blunt nature, Rip is a docile guy. While we drank coffee, Rip made tea. While we sat ready to learn the Back Squat, Rip argued about which southern state had the best barbecue. And while we drank beer Saturday night, Rip practiced Christmas carols on the saxophone with his brass band.

I went into this Certification fairly sure I had underestimated the complexity of the lifts Rip teaches. I was right. Like anything a person can make a life-long career out of, mastery of these "simple" movements requires years of practice and training with what he refers to as the "model" Back Squat, Deadlift, Press, Bench Press, and Power Clean imprinted in our minds. Understanding the

model of an exercise, or every detail of how it should look when executed perfectly, is the first step in learning to execute it yourself.

Rip started this process by diagramming every movement, explaining lever arms, angles, and proper technique with the scrutiny of a mechanical engineer. He took the time to clarify his teachings with scientific reasoning, explaining his choice of techniques with objective arguments. He made his case for the adaptational advantage of the Low-Bar Back Squat, explained the mechanical efficiency of the "high-hip" Deadlift position, and taught us the important balance of safety and leverage in the Bench Press. [see sidebar]

Learning by Teaching and Keeping a Straight Line

We learned how to execute these lifts by teaching each other, a practice that allows you to learn the mechanics of the movement while gaining practical experience coaching and cueing other athletes "It works," Rip explained, "I've learned more coaching other people than I ever did as an athlete."

The concept is simple: In groups, each participant gets the opportunity to walk someone else through the steps of the movement, recalling and storing new information in ways they wouldn't be able to if practicing on their own. The end result is a better understanding of the physical principles at work, and a really effective tool for trainers to disseminate to their clients.

Rip teaches that the bottom line of strength training is efficiency, and in the most efficient Squat, Deadlift, or Press possible, *the bar travels in a perfectly straight line*. Getting the bar to do just that, however, is harder than it might seem.

One effect of working with others is learning to deal with *anthropometry*, or the "segment lengths" of an individual's anatomy. Rip entertained us with stories of oddly proportioned students he has encountered and the difficulties of altering Deadlift and Squat positions for optimal performance. "If a coach tells everyone their Deadlift has to look the same, he doesn't know what he is doing," he said. This bit of information, though vitally important, didn't fully register with me until Rip demonstrated the changes that can occur in the Deadlift between two very differently proportioned people. [see sidebar]

Inevitably, Rip had to tackle the alternative views on these lifts, concerns we hear about on a daily basis from so-called professionals who claim these movements are

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RIP'S TECHNIQUES FOR THE MOST COMMON STRENGTH MOVEMENTS

BACK SQUAT

Stance: Feet shoulder-width with toes kicked out wide (35 degrees).

Bar: Resting roughly an inch below the TOP of the scapula and scissored tightly in place by the arms and shoulders.

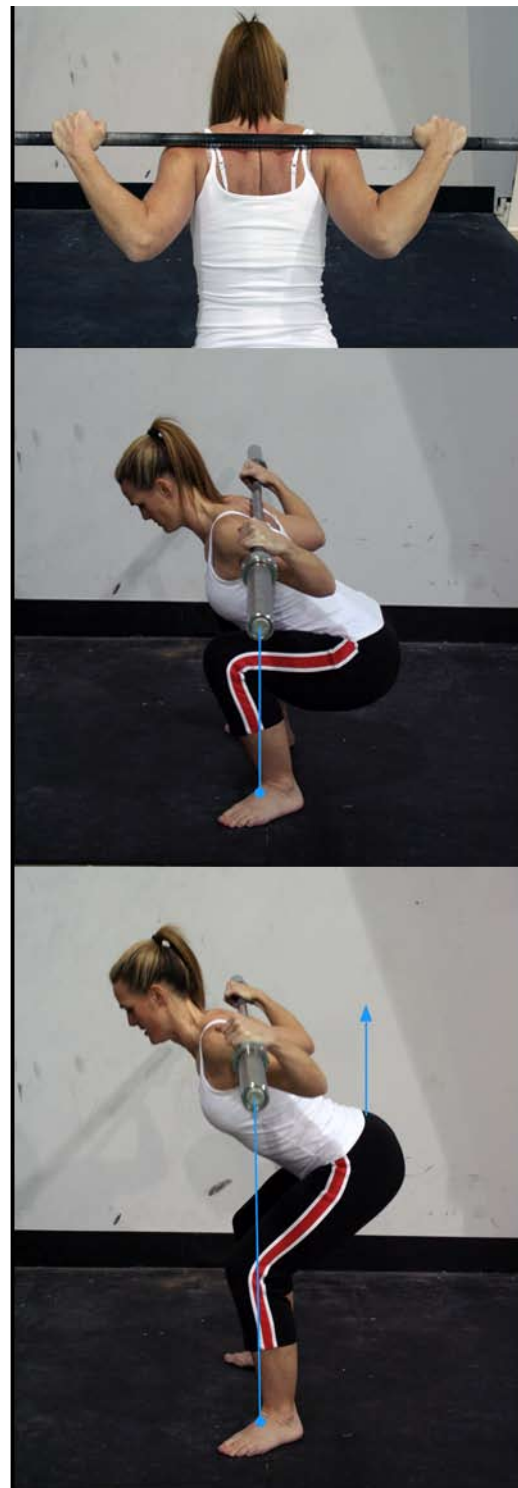
Grip: Fingers and thumbs on top of the bar.

Eyes: Looking down in front of your feet.

Execution: With the back arched and breath held tightly in the abdomen, unlock the hips and knees, pulling yourself below parallel while pressing your knees out to the sides. When proper depth is reached, squeeze the hamstrings and glutes tightly to "bounce" out of the bottom of the Squat, returning to the start position by driving through the hips. Don't just push through the legs. Learning to harness the "hip-drive" of the Squat is the key to developing your Squat strength.

Common errors and fixes:

1. *Not going below parallel:* Your stance might be too wide or your knees may not be driving out enough. You should squat between your legs, not on top of them. Drive with the legs; have someone press their hand right above your tailbone while you come out of the squat and practice driving into that resistance with your hips.
2. *Looking forward or up:* With the same resistance pressing into your tailbone, look up at the ceiling and try to come out of the squat by driving through the hips. You will find this extremely difficult. Make a mark on the floor and stare at it!
3. *Changing back angle during the squat:* Raising your chest or turning it down during the concentric phase of the squat will change the relationship of the bar and the midline of your body. This means the bar won't be moving in a straight line and you will likely lose balance. This is best corrected with practice and good feedback from an observer.



THE PRESS

Stance: Wherever you feel the most comfortable, usually shoulder width apart.

Bar: Held in a tight rack position with hands somewhat narrower than for a Front-Squat.

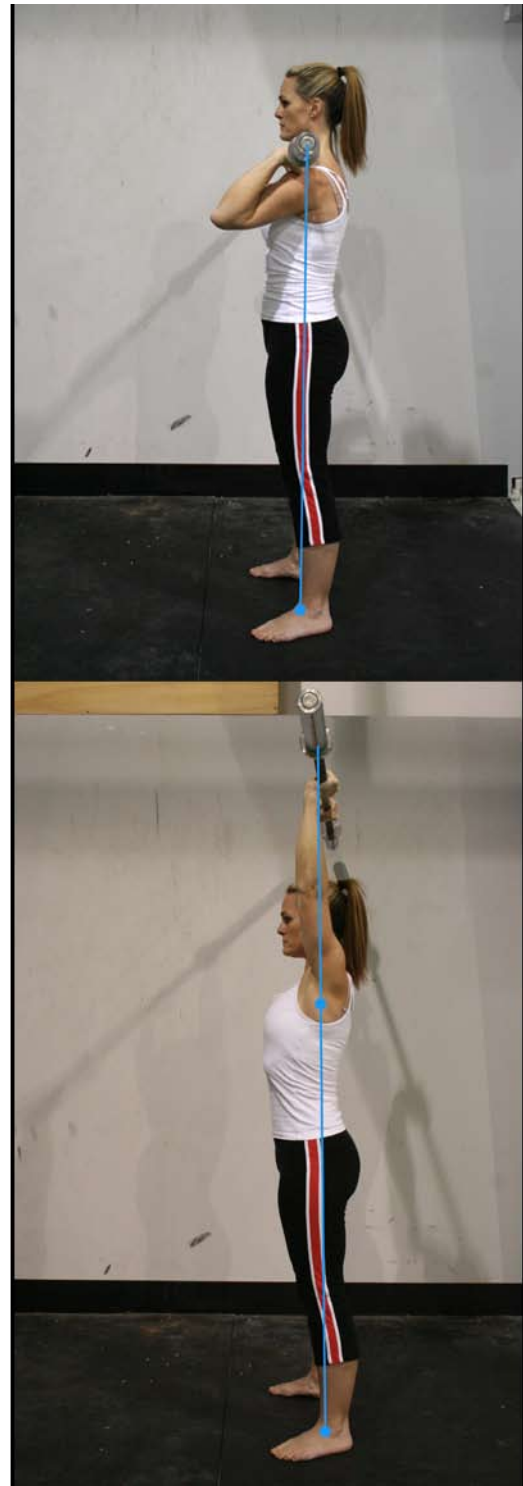
Grip: Before picking up the bar, put your palms against it and turn your fingers inwards 45 degrees. Gripping the bar from this position increases the surface area of your palm against the weight.

Eyes: Look straight ahead.

Execution: Set your grip on the bar and step back from the rack. For the bar to move straight upward, you must initiate this movement by leaning back slightly, pushing the bar as close to your face as possible. Once the bar clears the top of the head, drive the head, shoulders, and chest under the bar forcefully while pushing upward. The arms should lock with the bar balanced over the scapula and the middle of the foot. For multiple reps, Rip teaches the following breathing pattern: At the top of the lift, exhale and inhale, locking the breath in the abdomen. Lower the weight until it reaches the start position, squeeze the traps, shoulders, and triceps forcefully to "bounce" the weight out of the hole, and return it to the top.

Common errors and fixes:

1. *Moving the bar too far from the body:* This can cause your lift to stall or fail somewhere in front of your face. Keep the bar directly over the midline of the body by leaning back and keeping the bar as close to your face as possible.
2. *Not driving the body under the bar:* When the bar clears the top of the head, pushing your entire body under it properly aligns your shoulder and puts the weight over your scapula.



THE DEADLIFT

Stance: As Rip says, "Closer than you think." Heels should be under the hips and toes pointed slightly out to the sides.

Bar: Against the shin, above the middle of the foot, and directly under the scapula.

Grip: Slightly narrower than that of the rack position.

Eyes: Slightly forward and down.

Two positions: There are two distinctly different yet equally correct Deadlift start positions. In the accompany pair of photos, Gina (left) has longer than average femurs and therefore shows a nearly parallel back angle when positioned with her scapula above the bar. Karen (right) is more normally proportioned but shows signs of slight kyphosis. Her position over the bar puts her hips slightly lower and steepens her back angle.

Execution: Move to the bar and stand with your shin one inch away from the bar. Take a large breath and hold it in your abdomen. Fold over without moving the weight or lowering your hips, and take your grip. Bend your knees until your shins touch the bar. Now lock your hips in place so that they don't lower, arch your back and bring your spine into full extension, but keep your neck aligned with the thoracic spine and chin down. Now stand up, keeping the bar close to the body as you move to full hip extension.

Common errors and fixes:

1. *Not raising the chest high enough at the start:* This movement brings the entire spine into extension, creating a safe and stable platform from which you will hang your Deadlift. Have someone watch you or photograph yourself to review your starting position.
2. *Overzealous lockout:* Leaning back farther than necessary at the end of the lift can produce a dangerous hyperextension of the lumbar spine.
3. *Yanking from the floor:* This is like trying to push a stalled car with a running start. Take all of the slack out of your arms and shoulders until the bar makes a "clicking" sound against the weights. You are pulling with your body, not your arms.



THE BENCH PRESS

Stance: Your feet should be flat on the ground and pressing into it. Arch your back as much as possible, bringing the middle of the back off of the bench and bracing the shoulders and tailbone against the bench.

Bar: On the rack, the bar should be just behind your eyes.

Grip: Slightly rotate the hands inward before setting the grip. Distance is a matter of preference, but should fall somewhere between 22-28 inches. For maximum transfer of force, the wrist and forearm should be lined up directly below the bar.

Eyes: Looking up at the ceiling on the near-side of the bar at the start position.

Execution: During the Bench Press, the elbows should point between 45 and 80 degrees. This angle will vary depending upon individual flexibility, but even lifters flexible enough to reach 90 degrees should avoid the shoulder impingement that occurs at this angle. After driving feet into the floor and arching the lower back, take a deep breath and hold it tightly in your abdomen. Have your spotter lift the bar from the rack and guide it to the point at which the weight is directly over the shoulder. Lower the bar until it touches your chest. Squeeze the muscles of your upper body, driving the weight out of the bottom of the press until it is locked out above the shoulder. For multiple reps, inhale and exhale with the bar locked out above the shoulder.

Common errors and fixes:

1. *Looking at the bar:* Following the bar with your eyes is a mistake. Focusing on the ceiling and just seeing the bar in your peripheral vision allows you to use the ceiling as a reference point and correct small variations in the movement of the bar.
2. *Not using your lower body:* Put your feet on the ground and push. You are literally trying to drive your body into the bench, and you can't do that if your feet are too close, on the bench, or ignored completely. Your legs will add a great deal of support to your upper body, allowing you to lift with greater efficiency.

THE POWER CLEAN



Continued from Page 2

dangerous and arcane. From the fear that below-parallel squats will destroy the knees to the supposed danger of the Valsalva maneuver (i.e. holding your breath while you lift), Rip has heard it all. He tackled these and many other arguments against strength training, which he sums up as nothing more than “silly bullshit,” with the seriousness and irritation of someone who has been debunking the same myth his entire career.

In the hopes of calling a sacrifice to the altar, Rip then scanned our group and asked snidely: “Are there any physical therapists in here?” Our class sat in silence. I looked around and wondered if there were any physical therapists among us, likely pretending to be endurance athletes and trying to regain control of their bladders.

Rip then gave us a glimpse of why he takes these discussions so seriously. He shared with us his fears that attempts might be made to take away a trainer’s right to prescribe exercises to a client without first being medically licensed to do so.

Rip then started drilling us with questions: “Why are below-parallel squats safer for the knees than quarter squats?” I remembered him saying something about how below-parallel squats create a neutral force on the knee joint, but I wasn’t quick enough. “When you are told by an empowered board of physical therapists that it isn’t legal to have your clients squat below parallel, will you be able to explain why they are wrong?” Rip’s



Stance: Take the same stance as for the Deadlift.

Bar: Against the shin, over the middle of the foot, and directly under the scapula.

Grip: Slightly wider than the Deadlift so that the bar can be transferred into the rack position.

Eyes: Focused forward.

Execution: The beginning of the Power Clean will start with the same mechanics as the Deadlift. Once the bar is pulled past the knee, however, it will touch a point on the thigh referred to as the "Jumping position." This point is reached when the knee is slightly bent, the butt is stuck back, and the bar is touching the skin close to halfway down the thigh. Once the bar reaches this position, jump violently upward, extending the knee, hip, and ankle joint and transferring this force into the bar. The bar will float into the air, close to the body.

description of this dystopian fitness world was eerily prophetic. It's obvious he believes such a scenario possible, but is it? A quick Internet search on the topic was sobering. Apparently at least four states across the country have already proposed legislation that would somehow regulate certain types of "fitness professionals," even calling for state-licensure of personal trainers. I spent the rest of the certification imagining a world in which strength training had been legally reduced to leg-presses and Nintendo-Wii calisthenics. What we were learning suddenly seemed to take on an importance that went beyond our own fitness.

Strength training, not Powerlifting

Rip is a wealth of experience and information, but readily admits to his lack of personal achievement in the sport of powerlifting, which has left him relatively unknown as both athlete and coach. Although he won the Greater Texas Classic meet in 1981, he remained a state-level athlete, eventually ending his career in 1988 after ten years of competing.

To Rip, however, a coach's athletic achievement isn't synonymous with his or her ability. "You cannot effectively coach an athlete without really experiencing the sport," he says, "but naturally good athletes rarely make good coaches because they have never had to overcome the difficult challenges of training that less gifted athletes have, and they cannot grasp the difficulty an average athlete may be having in learning what came so easily and naturally to them."

Expanding on this point, he also compares high school and D1-level strength coaches. "The guy who deals with athletes of all different abilities and backgrounds has much greater demands on him than a coach who is handed genetically gifted athletes and told 'Just don't get them hurt,'" he says.

Not by accident, Rip left powerlifting at roughly the same time that the sport he'd been a part of was changing dramatically. Coming into play was the "squat-suit," an incredibly tight-fitting one-piece "girdle" that literally pulls your hips and legs into extension and does a great deal of the work of squatting for you. In Rip's opinion, this device has led Powerlifting down a path of shortened range of motion, decreased strength in the Deadlift (nearly a 100 lb. drop at the professional level, he claims) and controversies surrounding the deterioration in quality of the sport itself.

I learned a great deal of this by pissing Rip off. Somewhere during my indoctrination into CrossFit, I filed the major

Simultaneously stomp the feet back to the ground and snap the elbows under the bar, receiving it in the rack position.

Common errors and fixes:

1. Pulling with the arms: Your arms are attached to the bar, but your body does the work. The elbows must stay straight until after the jump has occurred. In the jumping position, your arms must be rotated inward and locked out. Practicing the Hang Power Clean and setting the arms up in this way will help eliminate their ability to pull the bar upward.
2. Poor catch: Receiving the bar with your elbows pointing towards the ground puts the weight of the bar directly into the wrist and arms. A good rack position places the barbell across the top of the contracted deltoids, and can only be achieved if the elbow is pointed up and forward, high enough to transfer the weight of the bar to the body.



LOW-BAR BACK SQUAT

The best Squat technique for developing general strength is the one that recruits the most muscle mass and follows the greatest range of motion. A low-bar Back Squat, compared to a high-bar Back Squat, decreases the hip angle of the squatter, further stretching the hamstring during the eccentric (lowering) phase of the lift and therefore recruiting more of the ham during the concentric (raising) phase of the lift. This recruitment creates a greater stretch-reflex, or concentric phase, that will allow the lifter to Squat more weight. [See "Low-Bar vs. High-Bar Squats" By Mark Rippetoe May 01, 2008]

lifts into two main categories in my mind. The Clean, Jerk, and Snatch went into an "Olympic-lifts" drawer, and the Deadlift, Bench Press, and Back Squat went into a drawer I labeled "The Powerlifts." Big mistake. Without meaning to, I was implying that these basic human movements were tied to professional Powerlifting. I had hit a sore spot with Rip, and he straightened out my semantic errors with all the finesse of a bulldozer:

"I do not teach powerlifting. powerlifting is the competitive sport of the Squat, Bench Press, and the Deadlift that involves suits, wraps, and sometimes chemicals. Some up at [CrossFit] HQ seem to think that I do, but I want to make it clear that I teach generalized *strength training* to novice athletes—not powerlifting. I am neither qualified to coach nor interested in competitive powerlifting and the only relationship between what I do and powerlifting is that we both happen to use three of the same exercises"

Stef Bradford, the course's programming segment instructor, later told me that this certification had previously been titled the "Powerlifting Cert" until it became obvious to everyone involved that it had very little to do with the sport of Powerlifting. This distinction is obviously important. CrossFitters need brute, general strength; a strength created by using the greatest range of motion, the most muscular recruitment, and functional, applicable movements. This is the "strength-training" Rip teaches.

The CrossFit Strength Debate

Not surprisingly, the adaptation of general strength seems to be the most important foundation of GPP training in Rip's eyes. He makes this point subtly, but it's clear he feels CrossFit lacks enough of a focus on strength training for beginners. After the certification was over, Rip walked up, bringing another student with him. He motioned towards me and said, "Tell him what you told me." The student said he had started CrossFit with reasonable success, but then stopped and exclusively followed "Starting Strength," Rip's basic programming guide for beginning strength training. When he started CrossFit again, he found that his times on benchmark workouts had improved substantially.

Using my classmate as one of many examples, Rip followed with his personal and somewhat controversial conclusion: "The best CrossFit athletes come from a strength training background."

Cynics might point out that Rip's own book and program conveniently fill this "void" in CrossFit programming. In

HIGH-HIP DEADLIFT

When a Deadlift leaves the ground, the bar must be under the scapula. If a start position is used that puts the bar in front of the scapula, the bar will swing into place somewhere during the lift, sacrificing efficiency and lowering the maximal weight that can be lifted. The most efficient path of the bar then—a straight line—is attained by initiating the lift with the scapula directly over the barbell. This will place the hips at a relatively high position at the start of the lift.

BENCH PRESS COMPROMISE

Keeping the bar on a straight path creates efficiency of movement, but in the case of the Bench Press, some shoulder impingement can occur. To execute this lift safely, a compromise is made: The bar starts directly over the shoulder, but as it is brought down the elbows push out below 90 degrees, usually somewhere between 45 and 80. The bar moves down at a slight angle and touches the mid chest, a point that is a few inches below the straight-line path that intersects the shoulder joint at the start of the movement. The bar is then pressed back to the start position following the same slight angle.

fact, just for attending the Basic Barbell Certification, each of us was sent home with copies of “Starting Strength” and “Practical Programming,” both authored by Mark Rippetoe and Lon Kilgore. Was this a sales pitch? Not in the way you might suspect. Both Rip and Stef were exceptionally clear that there are limitless possibilities for incorporating more strength training into a CrossFit regime. In conversation, we discussed a number of these methods without Rip’s program ever being mentioned. What Rip is really selling is his honest belief that strength is the most influential adaptation for successful Crossfitters. But is this true? Do beginners perform better after achieving some base in strength training prior to starting CrossFit? Doesn’t CrossFit programming already take the right balance of strength training into account?

The answer, as usual, seems to lie somewhere in between. Our broad, inclusive, and general definition of fitness creates athletes who are skilled in every arena but masters of none. Dr. Bradford pointed out the tendency of athletes to lose specialized ability after

starting CrossFit for this very reason. She also noted that specific aspects of fitness develop more slowly under CrossFit programming than when trained singularly. For instance, a beginner might see a smaller strength increase during his or her first month of CrossFit vs. a month spent training the Back Squat. The trade, of course, comes from CrossFit’s ability to increase capacity in every measurable domain of fitness, not just general strength. So is Rip wrong to draw conclusions on the success of Crossfitters who started with strength?

Many beginning Crossfitters *do initially* benefit from greater focus on strength training, it’s the *why* that Rip and I might disagree about. Obviously no one is talking about the benefits of supplemental running for starting CrossFit, but that’s not because the adaptation of strength holds some empirically greater value. It is because most CrossFit newcomers are fairly familiar with running. Rip’s broad conclusion is merely a reaction to the fact that the average person’s weakness is strength

Rip touched on this point during our certification. “We live in a society where it isn’t cool to be strong.” He is right. The average “fit” person by our societal standards spends half an hour on the treadmill and does yoga. The “Emo-rexic” trend among our youth has left our teenage males trying to wear their girlfriend’s jeans. Even sports teams are trying to program fitness with stability balls and Pilates. Improvements to general strength, as we have already covered, will come faster with more specific focus. It isn’t unheard of for an athlete to skip the WOD and just practice double-unders; disproportionate weakness in strength is no different. This weakness would be fixed by following the WOD, but it is fixed more quickly through specific supplemental training. This is why many of Rip’s examples have excelled at CrossFit *after* a prescription of Back Squats and Deadlifts.

I don’t, however, believe there is anything solid behind Rip’s correlation between strength athletes and success in CrossFit. My best athletes are, quite logically, from the backgrounds that already closely mirror CrossFit training. The Current “Fran” world-record is held by a gymnast: Jason Kaplan. Well-trained wrestlers, football players, and rowers are usually somewhat competent in the Squat, Deadlift, and Clean, but generally have a better strength/weight ratio and greater anaerobic capacity than strength-specific athletes. These athletes are already decent across the board because their sports (with the exception of the rower) don’t exactly specialize

them for a single task. Sounds familiar, doesn't it?

Even if you don't agree with all of Rip's opinions, he is good at what he does. Anyone can claim to coach the lifts Rip teaches, but his mastery of these movements makes the quality and clarity of his instruction invaluable. Guided by practical application and common sense, he manages to deliver this instruction in a way that benefits everyone from CrossFit beginners to veteran affiliates. General Physical Preparedness requires the kind of brute strength that can only be developed through maximal efforts. These efforts are only truly maximal when proper form, technique, and programming come together for those few seconds of suffering. This single weekend gives participants the knowledge to make this possible. The Basic Barbell Certification is more than just an analysis of movements; it is a window into a world many people misunderstand. Even seasoned CrossFit athletes can underestimate the technical difficulty of executing a perfect Squat, and learning from a coach of Rip's caliber and character is an experience in itself.



About the Author

Raised in Atlanta, Russell Berger spent four years in 1st Ranger Battalion and saw numerous combat deployments. After starting Crossfit in 2004, he left the military, moved to Alabama and opened CrossFit Huntsville. Currently he splits his time among work, school, and arguing politics.



Training 2 Miles to Run 100

In the name of science, a dedicated CrossFit lab rat pushes the limits.
Will he be a runaway success—or run out of gas?

Greg Amundson



The thought of running 100 miles never occurred to me before I met Melissa Mackenzie, an expert in endurance running and training. During a CrossFit Level 1 Certification in San Diego last November, Melissa, the co-owner of CrossFit Newport Beach, challenged me to run 100 miles in 24 hours. After all, CrossFit has always made the claim that short-distance anaerobic workouts transfer to long, slow-distance aerobic events. This has been proven by athletes such as world-renowned rock climbing expert Rob Miller, who routinely breaks mountain climbing records on CrossFit training alone. Attempting to run 100 miles on CrossFit training alone seemed like the kind of challenge I could sink my teeth into.

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I had one month to prepare myself for the event. Melissa and I agreed I would only follow the CrossFit main site WOD (Workout of the Day) and that I would do no additional long-distance running. Between the day I agreed to do the run and the day of the event, my CrossFit journal had me running just twice: I did Helen (400-meter run, 21 kettlebell swings, 12 pull-ups) and Nancy (5 rounds of 400-meter run, 15 OHD squats with 95 pounds.)

That is exactly two miles of running.

Another challenge I added was to run the entire distance on Zone food alone. No supplements or other weird energy-type drinks. I wanted to prove that CrossFit training and the Zone diet can truly create a "ready state" from which an athlete can do just about anything.

*The stage was set.
I would attempt to run 100 miles
in 24 hours to support Operation
Phoenix on CrossFit training and
Zone nutrition alone.*

Besides doing the 100-mile challenge for scientific reasons, there was an altruistic side. I'd had a discussion with my good friend Jimi Letchford, also at the San Diego Cert, about the potential of using the run as a means to increase the awareness of Operation Phoenix, the CrossFit initiative to raise funds to equip the entire U.S. Marine Corps with functional fitness equipment to help increase combat preparedness, reduce injury, and strengthen unit cohesion. We agreed upon a plan in which the run would start and finish at CrossFit Camp Pendleton (A.K.A. "The Warehouse"), and that any media gained from the event would be used to encourage people to visit the CrossFit link to Operation Phoenix with the hope of a donation.

The stage was set. I would attempt to run 100 miles in 24 hours to support Operation Phoenix on CrossFit training and Zone nutrition alone.

It Takes a Village

I knew that in order to make the event a success, I would need the support of people in the CrossFit community. Michele Vieux of [MmmmGood Meals](#) graciously agreed to provide Zone-proportioned food for me during the run. Because I did not want to make any drastic changes from my diet during the event, Michele created a menu with some of my favorite "Tupperware" dishes, including fruit with cottage cheese, her world-famous pasta-less lasagna, and peanut butter stuffed apples. Although I normally 2x my fat intake, we decided during the run I would have 5x fat.

I also placed a phone call to my good friend Steve Serrano from CrossFit Marina. I wanted Steve to be available during the run in the event I had a medical problem that needed immediate attention. Steve is a long-time CrossFit athlete and expert in combat-related care as well as a fellow law enforcement officer. If I went down during the run, I definitely wanted Steve to pull me out.

On Friday, January 2, my wife Mallee and I drove from our house in Imperial Beach to CrossFit Camp Pendleton, where I parked in front and met with Melissa Mackenzie and Steve Serrano. I laid down in the back of Steve's Jeep for a baseline medical evaluation, which showed my resting heart rate at 54 BPM and my blood-pressure at 123 / 72. After a warm-up at CrossFit Camp Pendleton consisting of overhead squats, GHD sit-ups, pull-ups, and dips (isn't that how all distance runners warm-up?) I was ready to start the 100-mile adventure.

In the tradition of all CrossFit WODs, Steve Serrano started the official timer with a loud and clear, "3-2-1 GO!" and I was off. Start time 3:45 p.m. on Friday, January 2, 2009.

Starting-Off Like a Well-Oiled Machine

My original plan was to hold a 12-minute mile and take a 10-minute break every five miles. If I was able to keep true to this plan, I would finish the 100 miles before the 24-hour cutoff.

The first five miles took me through the beautiful and rolling hills of Camp Pendleton, then out the north gate and down a bike path to Pacific Coast Highway, which would be my home for the next day.

As soon as I hit PCH, I was met by the first of many public safety officers who would provide an escort for

me during the run. It was also during this time that the community and family of CrossFit really started to shine. Orange county firefighter and CrossFit affiliate owner Jeff Hughes had arranged for an Orange County fire engine and ambulance to escort me through the busy streets of San Clemente. It was a welcome addition to the run as the streets were busy and the sun was starting to set. I ran for approximately one mile with the fire engine before reaching my first checkpoint.

My crew consisted of my wife Mallee, Melissa McKenzie, and Denise Serrano. Jimi Letchford had rented a large Ford van to act as the mobile support vehicle. The van was in fact a rolling Zone cooler! Inside we had over 20 four-block meals consisting of whole foods (turkey rolls, peanut butter-stuffed apples, pasta-less lasagna, fruit salads) and enough Dr. Sears ZONE bars to supply a small army. The Dr. Sears ZONE Company had made a generous contribution to Operation Phoenix and had shipped me an assortment of Zone bars, fish oil capsules, and Zone shakes.

At the first 5-mile checkpoint, I ate my first Zone meal—four blocks of turkey rolls and peanut butter stuffed apples. My wife Mallee refilled my water bottle

and after a few quick rotations I was back on the road. Given that the data in my CrossFit journal for my running events showed me averaging a 6-minute mile, initially sticking to the 12-minute mile was very difficult and required some real concentration. Instinctively, my body wanted to open up the throttle and go as hard and fast as I could. This event, however, would require me to hold a steady pace for a very long time. At first, it had the feel of attempting to do 5 pull-ups, 10 push-ups and 15 squats every minute, on the minute, for 30 minutes. In such workouts, you have to strike a critical balance between efficient movement and periods of rest.

In the original plan, we had the support vehicle and my crew drive five miles ahead of me and wait for my arrival. We stuck to this plan for the first 15 miles before I realized it sucked. Without a clear mile-marker to judge my progress against, I had a difficult time pacing myself. At the third rest stop, I told the crew I needed them to drive in 1-mile increments. By the third rest stop, I also picked up the first of many law enforcement support vehicles. The first agency to provide a uniformed escort and patrol vehicle was the Huntington Beach Police Department—and they set the gold standard. At least five marked vehicles and ten officers provided escort



through the duration of their jurisdiction. In addition to the motivation that seeing my fellow “boys in blue” provided, it also gave me logistical support through Surf City’s busy Friday night streets.

Around 35 miles into the run, the weather took a turn for the worse. The temperature dropped into the low 40s and it started to rain. At about the same time, I started to develop some pain in my feet. I had taped my feet, including my heels and toes, prior to the run, so I was not too concerned with blisters. However, I was concerned about possible structural damage from the constant pounding of my feet against the pavement. I had started the run in a pair of Addis Adzero racing flats. I had selected the shoe for its incredible light weight, 8-3/4 ounces in a size 11. In addition, I felt confident that I would be able to maintain the Pose running method in the shoe. However, as we neared 40 miles, my ability to maintain the Pose had diminished and I had reverted to my regular heel-to-toe striking pattern. As a result, my feet and ankles started to take the brunt of my 205 pounds. At mile 45 I had had enough and changed to my back-up shoe, a heavier but a much more cushioned Asics Gel.

Through mile 50 I had been able to maintain my goal of holding a 12-minute mile, with one exception. After my break at the conclusion of five miles and a four-block Zone meal, I needed to walk my first mile out of the gate. Running after eating, although slow, was possible in the early stages of the run. But as the hours and miles tacked on, I felt that my digestive system was telling me to walk following the rest-area meals.

Halfway Home and Ahead of Schedule. But...

At 50 miles, it was time to turn around and return to Camp Pendleton. I had finished mile 50 after approximately 11 hours of consistent movement. I felt surprisingly good mentally and physically. Two additional medics, Tyler Scarborough and Parsh Armin, did a quick heart rate and blood pressure check before I started the return trip. Amazingly, to the credit of CrossFit and the Zone diet, my fitness level was so high that my resting heart-rate had risen to just 60 BPM and my blood pressure was largely unchanged at 119 / 75 —after 11 hours of arduous movement. So my spirits were high as I began heading back to Pendleton with 13 hours left on the clock to go 50 more miles, confident I could make the full 100 in under 24 hours.



But my lower body had other plans.

Mile 50 to mile 55 was one of the hardest stretches of the entire run. My pace slowed and I started to develop intense pain in my ankles, soles of my feet, and my knees. It was a very unfamiliar feeling: I know what “muscle pain” feels like and am comfortable with the burning sensation that develops over a workout like Tabata This (20 seconds on/10 seconds off for 8 rounds of pull-ups, push-ups, sit-ups, and squats). However, the pain in my lower extremities had more to do with the bones and ligaments than it did with muscles. My ankles, feet, and knees started to swell and I lost a great deal of mobility in my ankles.

Interestingly, everything above my knees felt great. My hip flexors and hamstrings felt fine. At the rest stop at mile 55, my ankles were starting to go. I had completely exhausted the muscle that lifts my toes off the ground. I started mile 56 in a great deal of pain and at a very slow pace. As I neared mile 58, I found myself having to walk. I trudged forward for two more miles and then nearly collapsed at mile 60. I nearly doubled my scheduled 10-minute break as I desperately tried to stretch my calves and increase the mobility in my ankles.

As I neared mile 62, I got a much-welcomed visit from running expert Brian Mackenzie. He took one look at my running posture and technique and shook his head. I had totally lost the proficient running style associated with the Pose technique. I had resorted to lifting my toes and planting my foot forward of my center of gravity. Brian quickly corrected this, but much of the damage had already been done. The pain in my ankles and calves was immense.

Brian is a great coach and incredible motivator. We put a plan together that had me picking out objects approximately 200 meters ahead and running towards them in the Pose technique. I would run as fast as I could (which was pretty darn slow) to a light pole in the distance and then walk the same distance as recovery. I continued this with Brian for approximately six miles.

Miles 68 to 70 was pure survival. During my rest stop at mile 70, I discussed the state of my lower body with my wife Mallee. I can honestly say that I had never experienced such intense pain in my entire life. My ankles and calves were bright red and immensely swollen. I could not bend my ankle up or down or side to side. Despite all that, I was utterly fascinated with how calm, focused

and rested I felt. My heart-rate was slow and controlled, breathing was normal, and I was not even remotely close to muscle exhaustion. Nevertheless, I could hardly walk on my own.

Mallee and I spoke about how unlikely it would be that I would be able to finish the remaining 30 miles in under 24 hours. We agreed that I would continue to rack up the miles until we ran out of time.

Mile 70 brought me back to familiar territory: Huntington and Newport Beaches. As I trudged along Pacific Coast Highway, Mallee began walking beside me and speaking words of encouragement, as she would until the end, and a motorcycle officer led from the front and a patrol vehicle covered me from the back. As I neared mile 72, I had an unexpected visit from my mom—all the way from Stockton, California! She walked one mile with me and then decided to stop. She was concerned about my health until she was calmed by Steve Serrano. Mile 75 to 80 was achieved on mental determination alone. It was taking me close to 30 minutes to walk one mile – and a very painful mile at that.

Cries of Anguish—and of Success

At mile 78, the most interesting part of the entire run started to unfold. As I walked along the side of the road adjacent to a long line of stopped vehicles at a red light, I started to cry uncontrollably. Cry is probably the wrong word to describe it; it was a sob. Although surrounded by friends, I asked to walk alone with my wife. I continued to sob as she put her arm around me and offered her support. Later she told me that I repeated over and over, “It hurts so much—it is so hard.” I remember thinking to myself, “gosh, I never thought walking would get to be so hard.”

We reached 80 miles at exactly 24 hours. It had taken me 13 hours to get the last 30 miles—2.3 mph. At that point, Steve had arranged to have a professional medical crew do a complete work-up on me. An Orange County paramedic tested my heart-rate, blood-pressure, blood-sugar levels and even did an EKG. The results were all well within the normal range and the entire medical crew was dumfounded and impressed at how far I had come with such a normal read.

Steve and I spoke privately about my physical state and how we might proceed. I had reached the established time limit but still wanted desperately to reach the 100-mile mark. Steve, always a true warrior, said he

would stay with me to the end if that's what I wanted to do.

I explained to Mallee how much I wanted to succeed and complete the entire run. Although she was concerned about my body, she agreed to support me. After a 45-minute break that included a 5-block meal and a foot and ankle massage, I got out of the back of Steve's Jeep and continued to head south—but I didn't get far. With one arm around Steve and the other around Mallee, I somehow managed to travel .3 miles in approximately one hour. It was miserable, painful and started to border on being downright dangerous. 80.3 miles and 26 hours from the start time the run was concluded.

That night, Rachel Medina from CrossFit South San Clemente, her brother Adam, and longtime CrossFitter and good friend Terrance Gant brought a home-made dinner to our hotel room. While talking and laughing with them about the events of the previous day, I had a realization that I shared with Terrance: We needed to celebrate—because we had just achieved a great success.

First, we did raise money. Using the leverage from my run, Jimi got the Zone company to donate \$20,000 to Operation Phoenix. Secondly, on one month of preparation, CrossFit WOD training totaling two miles of running and a strict Zone diet, I had run 80 miles in 24 hours at a bodyweight of 205 pounds along a treacherous route.

Although our goal was ultimately to cover 100 miles in the same amount of time, and certainly could have benefited from more sport-specific training, I had achieved 80% of what I had set out to do. In the hopper model of fitness, where an athlete never knows the physical event they will be called upon to perform, the goal of CrossFit is to create a "ready state" where an athlete can perform at 80% in any physical event. In reflection, far from a failure, I see the run as a success for CrossFit, and living proof that CrossFit fitness is the best fitness program in the world.



About the Author

Greg Amundson, a federal law-enforcement official and well-known CrossFit certification trainer, is one of the original CrossFit warriors, the owner of numerous early WOD records, and the object of deep respect from CrossFitters worldwide.



Don't Muddle The Middle

Incomplete technique that ignores the mid-range limits performance.
Here's how to strengthen the critical in-between.

Bill Starr



Whenever someone starts on a strength program, his primary objective is just to get in the work on a regular basis. How the various exercises are done isn't usually a great concern at this stage, just so the form is adequate enough to complete the workouts. And that's okay. In the beginning, when relatively light poundages are used, form mistakes don't matter all that much. A power clean that runs too far out front can be pulled back into the correct line. An overhead press driven backward can be compensated for and saved. Adjustments can be made in poorly aligned squats or flat benches. So it's only natural for the athlete to assume that as he gets stronger and lifts heavier weights, technique won't matter; he'll continue to be able to redirect the misguided bar on any exercise.

But it's not so.

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THE DOs AND DON'Ts OF BUILDING MID-RANGE STRENGTH

DO

1. Strengthen middle-range muscles and attachments.
2. Visualize a smooth blend between the start and middle of the exercise.
3. Practice on incline benches, which are much harder to cheat on than flat benches or overhead lifts, and provide excellent visual feedback.
4. Practice a dead stop at the bottom of the squat, which keeps you tight and forces you to drive upward in a more controlled fashion with more power transfer power. Master this, and you soon won't need to stop at all.
5. Do clean high pulls in front of the mirror; this will clearly display your form flaws.
6. Test your mid-range strength in a power rack, then eventually switch to isotonic-isometric holds. If you find a large gap between the starting and middle strength levels, you can take steps to improve the lagging areas.
7. Use specific exercises and dumbbells. Bent-over rows, partial deadlifts starting from mid-thigh, good mornings and near-straight-legged deadlifts all work the middle. Dumbbells, unlike a bar, are hard to cheat with as they cannot be jammed through a pressing motion, and require constant middle involvement and balance.

DON'T

1. Rebound the bar off your chest on a bench press with such force that there is no need to involve the middle.
2. Bridge in the middle of a bench press when the bar stalls out.
3. Use a knee-kick to start an overhead press instead of keeping knees locked.
4. Bounce rubber weights off the floor on pulling exercises.
5. Forget the middle, particularly on pulling exercises, as most of them have a longer range of motion than pressing and squatting. Letting the bar float free for a brief moment could result in a missed attempt.

As a person gets stronger and the numbers start to climb, more attention must be given to technique. This is fairly obvious for large-muscle exercises like squats, power cleans, high pulls, flat and incline benches, and overhead lifts. But the form must also be refined on those auxiliary movements for the smaller groups as well—calf raises, shins, triceps and bicep work, plus all those done on machines. Because in strength training, as in life, the small points make the difference.

The very first rule of technique is that every exercise consists of three, not two parts—the start, the middle, and the finish, each of which must be done correctly to handle max attempts or set personal records. Unfortunately, the middle—the mid-range of an exercise—often gets overlooked. That's a big problem because the middle takes on a different significance as the poundages go up.

This form mistake can be difficult to notice at first, often because of a powerful start. Example: An athlete with really strong hips can propel the bar upward with such intensity that it zips right through the middle range. The result: All he thinks about is getting that explosive start and then locking that bar out at the top. The middle never enters his mind. That is, until the weight is heavy enough that he can no longer jack it up through the middle. Then it "sticks"—and since those muscle groups responsible for elevating the bar up through the middle ranges are relatively weak, the bar comes crashing down.

Yet even then, quite a few athletes misinterpret why they're failing with limit attempts. They decide their start isn't strong enough and spend time trying to correct that weakness. And that does solve the problem for a short period of time.

But unless they do something to strengthen those muscles and attachments used in the middle range, they're never going to improve to any great degree.

The middle is not brought into the mix by those who cheat to start an exercise. This is particularly evident on the flat bench where athletes rebound the bar off their chests with such force that there is no need for them to involve the middle. This version of the bench press consists of an aggressive, incorrect start and a lockout. On those occasions where the bar does stall out in the middle, they simply resort to another cheating tactic: bridging.

These athletes really don't care how they perform the exercise, just so the numbers keep moving higher. Eventually, however, that ugly form becomes a huge problem. They can no longer rebound a max poundage with sufficient force to drive it high enough even to utilize a bridge. Since those groups that are normally used to bench press a weight through the sticking point have only been utilized fractionally, they provide little assistance and the lift is a failure.

I've also found that even if athletes don't employ any kind of cheating, they frequently ignore the middle and think in terms of a start and finish, period.

The same thing happens when athletes use a knee-kick to start their overhead presses instead of keeping their knees locked. This sends the bar through the middle and bypasses those groups that need to be involved in the movement. It also occurs to a lesser extent when an athlete who is using rubber plates on his pulling exercises rebounds the weights off the platform. Once more, those groups normally needed to bring the bar up through the middle range aren't called upon nearly as much as they would have been if the athlete had started from a dead stop.

I've also found that even if athletes don't employ any kind of cheating, they frequently ignore the middle and think in terms of a start and finish, period. That means the bar will float free for a brief moment; if it's a heavy weight that usually spells a missed attempt.

While the middle range is a critical factor in any exercise, it's especially true for any pulling movement because most of them have a longer range of motion than pressing and squatting. This means that when athletes forget to concentrate on the middle range of power cleans, power snatches, full cleans, full snatches and high pulls, the shortcomings are going to be much more evident. This is even truer for any athlete trying to master the more complicated quick lifts: snatch and clean.



Tips for Involving the Middle

Understand the "smooth blend" concept:

The very first step is to be aware of the role that the middle plays in the execution of an exercise. Then, understand that while there are three parts, they are actually a smooth blending of all the segments; not three separate moves. Think of the middle as the extension of the start. When the start and middle go together in one continuous motion, the finish is a great deal easier and often takes care of itself.

There should be no hesitation between the start and the middle, and the middle and the finish. The three are linked in a powerful, harmonious manner. Once this notion is firmly established, it's much easier to put the theory into practice.

Incline benches:

I've found that the best way to teach a smooth transition is to have the athlete do incline benches. The incline is a controlled exercise and is much harder to cheat on than flat benches or overhead lifts. It provides excellent visual feedback since the bar is directly in front of the eyes during the start-to-middle transition. Plus, the athlete is firmly locked onto the bench so balance and body positioning aren't a problem. I have the athlete get set and I tell him to put as much juice into the start as possible; then as soon as he does that, I want him to lean back into the bench and drive hard into the moving bar. When he gets the feel of that, it's not difficult to utilize the same idea for flat benches, overhead presses, and even weighted dips.

Dead stop on squats:

Since the athlete cannot see the bar during a squat, it's a bit more difficult to learn this move. But it can be done. I have the athlete come to a dead stop at the bottom of the squat. This forces him to drive upward in a more controlled fashion than if he didn't pause at the bottom of the squat and allows him to connect the start with the middle more easily. In addition, pausing for a brief moment on either back or front squats makes the athlete stay extremely tight, a necessary component in order to transfer power up into the middle range. With a bit of practice, the athlete learns how to explode out of the hole and instantly apply more pressure to the upward moving bar. Once this is achieved, the dead stops are no longer needed.

Do high pulls in the mirror:

I use clean high pulls to teach the concept for pulling exercises. Since heavier poundages can be used on high pulls than on power cleans and power snatches, or full cleans and snatches, the form flaws display themselves more readily. So any hesitation from the start to middle can be spotted. I've stated before that I don't encourage my athletes to train in front of a mirror, but it helps to do so when they are trying to learn to make this transition properly. High pulls are good in this regard because all the athlete has to think about is pulling the bar just as high as he can. He doesn't have to be concerned about racking the bar or locking it out overhead. His full concentration can be centered on blending the start with the middle. When this is done without a hitch, the top will follow along nicely.

Get in a power rack:

In many cases, the start-to-middle transition isn't done correctly because the muscles needed to move a weight through that range are simply not strong enough. Which brings me to the often-asked question on this topic, "How do I know if my middle range is relatively weak on a certain exercise?" The answer, "Get in a power rack."

I'll use the back squat to illustrate. Set the pins inside the rack at a position that would be the lowest you go in the squat. Start out light, then add weight until you find your max. Now move the pins up to a spot where the middle range begins. For most, this is where the tops of the thighs are parallel to the floor. Follow the same procedure used for the rock-bottom starts. Only do two or three reps. That's plenty for you to find out what you want to know. Very few athletes are able to handle nearly as much in the middle as they can from the bottom, but this is to be expected since there are so many large muscle groups utilized in the start. Although there will always be a disparity, what you're looking for is a large gap between the starting and middle strength levels.

This same procedure can be used to isolate and identify weaker areas on any pulling and pressing exercises as well. Once the athlete knows where he stands in terms of relative strength, he can then take steps to improve the lagging areas. And the very best way to do that is to get back into the power rack.

I'll stay with the back squat as my example exercise. Set the pins in the rack at that spot which has shown itself to be relatively weak; just below that spot is also good. Squeeze under the bar, get set, and knock out three reps. Add weight and do another set, and so on until you find your limit. These can be done in place of your regular squat workout or added to your session. If the middle is really weak, it's best to work the rack although it's a good idea to do some full squats first to warm up the muscles and establish a groove.

Switch to isotonic-isometric holds:

After doing squats starting from the middle for several weeks, switch over to the Big Dog of pure strength training: isotonic-isometric holds in the power rack. The starting pin position will be the same, but now there will be pins positioned just a few inches above the bottom pins. Because this takes a bit of learning to master, start out with a light poundage. Get under the bar, making sure your feet, back, hips, and shoulders are where they're supposed to be, then squat the bar up into the top pins. Lock it tightly against those pins and do two more reps in the same manner. Add weight and repeat the process. The third set will be the final, work set. Tap the top pins twice, then fix the bar against the top pins and apply 100% effort against the bar for eight to twelve seconds.

Selecting the correct amount of weight for that final isometric hold will take some trial and error. The main thing to keep in mind about this exercise is that holding the bar in the isometric contraction for the required count is more important than how much weight is on the bar. If you can't hold the weight for a minimum of

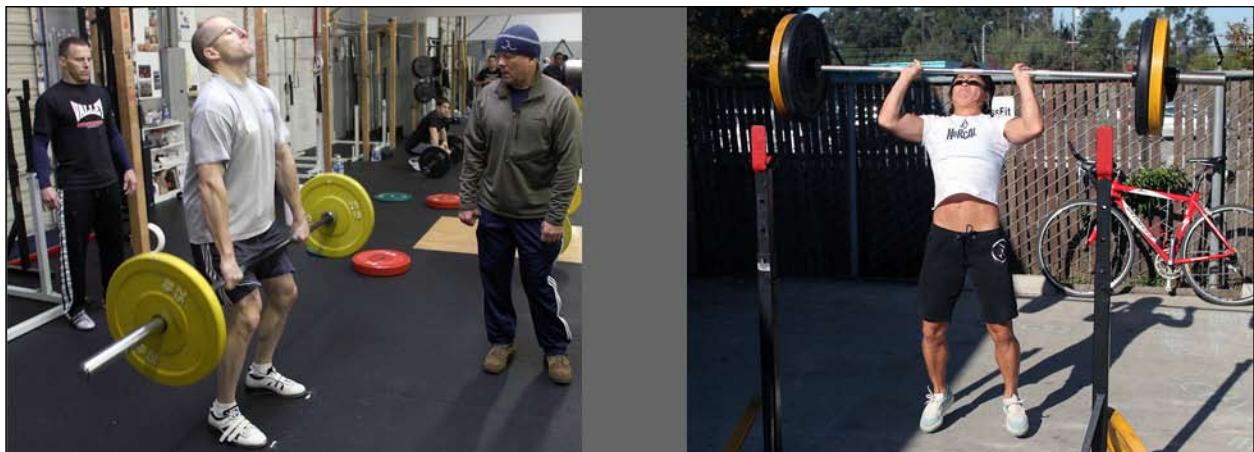
eight seconds, it's too heavy. Conversely, if you still have something left after twelve seconds, you need more resistance.

After you have been doing these for a while, you can skip the two warm-up sets and just do one work set. This can be done right after you finish your squats. That way, everything is warmed up and ready for a maximum exertion. Only do one work set per position, and if you decide to do isotonic-isometrics for two or three squat positions be sure to go light on your squats that day. This is highly concentrated work, and if you put every ounce of strength into that max exertion your attachments will be spent for that day.

Isos can, of course, also be used to strengthen weak areas in any pulling or pressing exercise as well. Usually, these are in the middle range. First, find out exactly where they are, then attack them in the rack. When done correctly, the isotonic-isometric contractions produce results quickly, but the key is to assume a perfect body position while locking into the top pins. Should you use faulty form, then the strength gained will not be convertible to the exercises you're wanting to improve.

Visualize an explosive middle that "whips" the bar:

As you gain strength in the weaker middle, you also have to utilize it better. This means thinking middle. For those who have been only concerned with a strong start and solid finish, this change takes some concentration. This is especially true for long movements such as power cleans and power snatches. The athlete needs to blend that strong start into an explosive middle, and this is best done by focusing on picking up the speed of



the bar once it leaves the floor, maintaining perfect body mechanics all the way. The analogy of a whip is useful in this regard. The higher the bar climbs, the faster it moves, so at the very top of the pull, it's no more than a blur. Practice makes this happen.

Build-up with specific exercises and dumbbells:

Besides working in the rack, you can attack the weaker middle with some specific exercises, such as bent-over rows, partial deadlifts where you start the bar from mid-thigh, and either good mornings or almost straight-legged deadlifts. To build a stronger middle for any form of pressing, I like dumbbells. Unlike a bar, dumbbells cannot be jammed through a pressing motion. They have to be more involved, even when the start is strong. There's also more balance needed to press heavy dumbbells than is required with a bar and this, too, builds more strength in the muscles being used in that exercise. Another reason I like dumbbells is it's difficult to cheat with them. Try rebounding them off your chest or shoulders and they run amok. They have to be guided through the proper range of motion and this deliberate action builds a different sort of strength.

Slow down and deliberately work the middle:

I mentioned that the middle is a vital part of any exercise, even those in the ancillary category. The reason why many are not obtaining the expected gains from doing biceps, triceps, or calf work, is because they aren't bringing the middle range into the exercises. Take standing calf raises, for instance. The majority of athletes I see doing them are just jamming up and down in a herky-jerky fashion. The solution: slow down through the middle. Make those muscles work harder than normal and they will respond favorably. Some even go so far as to pause in the middle on some upper arm or shoulder exercise. It's a small thing, yet it bears fruit.

Summary

Very few strength athletes pay as much attention to the middle portion of an exercise as they do the start and finish. Yet, that part is one-third of the equation for any exercise. Without a solid middle, the finish will not be nearly as strong and on max attempts this spells failure. So here's what I recommend: Give the middle more prominence in your training. This can be accomplished by coming up with a short key that will help remind you to involve the middle while doing a lift.

This works for me: Do a perfect start, then follow through behind that momentum immediately. This will eventually be condensed to: Start-Middle. Next, identify the weaker areas in that middle range and get to work strengthening them. When this is done, all the exercises in your program will benefit, and rather quickly.

Ultimately, improvement is the name of the game in strength training. In order to make consistent progress and achieve a higher level of overall strength, the middle must be given equal status and not treated like an inconsequential stepchild.



About the Author

Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 World Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team.

*Bill Starr is the author of the books **The Strongest Shall Survive: Strength Training for Football and Defying Gravity** which can be found at [The Asgaard Company Bookstore](http://TheAsgaardCompanyBookstore.com).*

The Best of CrossFit.com Barry Cooper Edition

The people and the movements that'll help you celebrate life

Barry Cooper



Winston Churchill, in his excellent short essay "Painting as a Pastime," emphasizes the importance of hobbies. And by this, he means activities that differ markedly from your normal work, and to which you are capable of dedicating without resentment—and generally with pleasure—considerable emotional and mental energy.

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We live in an age of consumption. All too often, fitness is “consumed” with as little attention and thought as food gulped on the way from one tedious necessity to another. What sane adult could derive pleasure from a treadmill, or a 3x15 on a machine that demands as little attention as the television helpfully planted in your line of sight to ensure that you are able to multitask even while working out?

Within this trackless and somewhat dispiriting realm, CrossFit, to me, is a discipline with texture, vitality and all the qualities needed for a bona fide hobby. You have complexity, diversity, intensity, and a large tribe of kindred spirits for whom a life without difficulty would be enervating and sad.

My “Best Of” selections, therefore, alternate between people and movements. I’ve met Andy Hendel, my first pick. He’s a great guy. He also is impressive as hell doing all those squats, seemingly without effort.

I also met Army Ranger Josh Hagar, the focus of another of my choices. I simply think he—like all of our fallen and wounded warriors—is worth remembering. He believed in doing his duty, regardless of the cost, and people like him are the reason our nation is free. We can’t see our freedom, for the simple reason that we have nothing to compare it to. Most of us have never in our lives encountered a genuinely unfree nation, or understood just how luxurious something like the freedom of religion is. Five-hundred years ago, they were executing as heretics or traitors anyone who didn’t think fat old Henry VIII should be stealing Church property, or cutting off the heads of his wives.

The Rest Day discussions, likewise, would be illegal even now in many nations. They could not happen. Cuba, for example, would never countenance the slightest form of criticism. Neither would North Korea. In Saudi Arabia, most of the pictures of CrossFit women would be censored. And if we were talking about Saudi Arabia, self evidently those women would not be working out. Their place is the home, bearing (hopefully male) children.

There is a lot of happiness in fitness, in the exertion of self-improvement, the exuberance of achievement. In many respects, every new day should be celebrated, creating as it does new opportunities, and vistas.

In some small way, I am perhaps trying to underscore this. You can learn, watching these videos, and reading

these links, not just about fitness, but perhaps something about living itself. Gratitude is power. Remember that.

There is so much that is good in the CrossFit archives. I just picked a few where I went “A-ha,” or “Wow!” or fell silent. Not in order of importance, I recommend you take a look at the following:



Andy Hendel doing 76 95 lb. Overhead Squats

This is a great video, not just because of Andy’s accomplishment—which I think anyone who tries will quickly appreciate—but because watching those 76 reps, you are going to get drilled into your head what a perfect overhead squat looks like. Since the OHS depends on regular squats, this is a great basic primer for CrossFit itself.

Rest Day: Evan Sayet’s “How modern liberals think”

Rest Day is and has been one of the more contentious aspects of the CrossFit Main Page. Many, many new people, coming to the site for the first time, are profoundly confused about open discussion of both

politics and, on occasion, religion. What does fitness, per se, have to do with either? Why talk about them?

The answer lies, I think, in a more complete—more holistic, if you will—understanding of “fitness.” To be fit, is to be fit to DO something. To be ready for a task when it comes, unexpectedly, down the pike. In our modern information economy, coupled as it is with self-government, fitness to think is more important than ever, but rarely or ever practiced after formal schooling (if then), or outside the narrow confines of work requirements. Since we take every fourth day off, why not use that as an opportunity to hone our minds, to practice debating and writing? To engage in competitive thinking, if you will?

This piece is included since it is the best single summary of the opinions of many of us that I can recall. It is worth recalling, in this regard, that for a great many CrossFitters, the War on Terror is not an abstraction.



Josh Hagar's Father comes by CrossFit Gym and does WOD in his son's honor

We have, regrettably, had quite a few workouts named after soldiers fallen on the field of battle. Josh is the one I had met. Very nice, very dedicated, very proud of being a Ranger. Here is a link simply showing that these workouts remember people who leave behind them people who loved them. We can't fill those gaps, but we can keep them from getting larger by showing our appreciation and respect, and by doing what we can to ensure that the tasks for which they fell are completed

[Here is the thread and workout:](#) Speaks for itself.



Kipping pull-ups video

Done properly, a kipping pull-up is a beautiful thing. I just love the slow motion on this, as it reminds me of a ballerina doing some ballerina thing, gracefully. Watch it, learn it, love it. Head under the bar was the most important coaching point for me, personally. I will add, that shoulder flexibility affects your kip. For men especially, this movement doesn't just demand flexibility, but it also builds it (cf. Andy Hendel above, for another use of flexibility).



Scoop, hardest part of O-lifts

The deadlift part of O-lifts is easy. Muscling up a weight is easy, up to a point. What is hard is understanding the explosive second pull, timing it right, and not using your arms. This is the simplest, clearest, most basic demonstration of the set of drills I have ever seen on what the scoop/second pull/double knee bend should look like. For anyone who drills this into their mind and body, it will mainly just then be a matter of getting stronger. In my own experience, that is a lot easier than relearning movements you learned wrong. Pay attention

to this video, and all the other great videos in the Exercise section, especially, of course, the many from Coach Burgener.



Kallista Pappas in the CrossFit Games Finals

Wow. How can you not love this video? That's what it's all about, right there. Grown men, it's OK if that brings a bit of a tear to your eye. Think of it as Rudy. If we can figure out how to raise a nation of kids like this, we have nothing to worry about.



About the Author

Barry Cooper has been CrossFitting more or less regularly since some time more than five years ago. Although his desired career path is professional curmudgeon, no one appears to be hiring in this economy, so he spends his time selling and installing things. He has degrees from UC-Berkeley and the University of Chicago in fields that lend themselves to careers in catering.