

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 PdD 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 barbeque.

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 sugarcoating, 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 dangerous and arcane. From the fear that below-parallel squats will destroy the knees to the supposed danger of

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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.

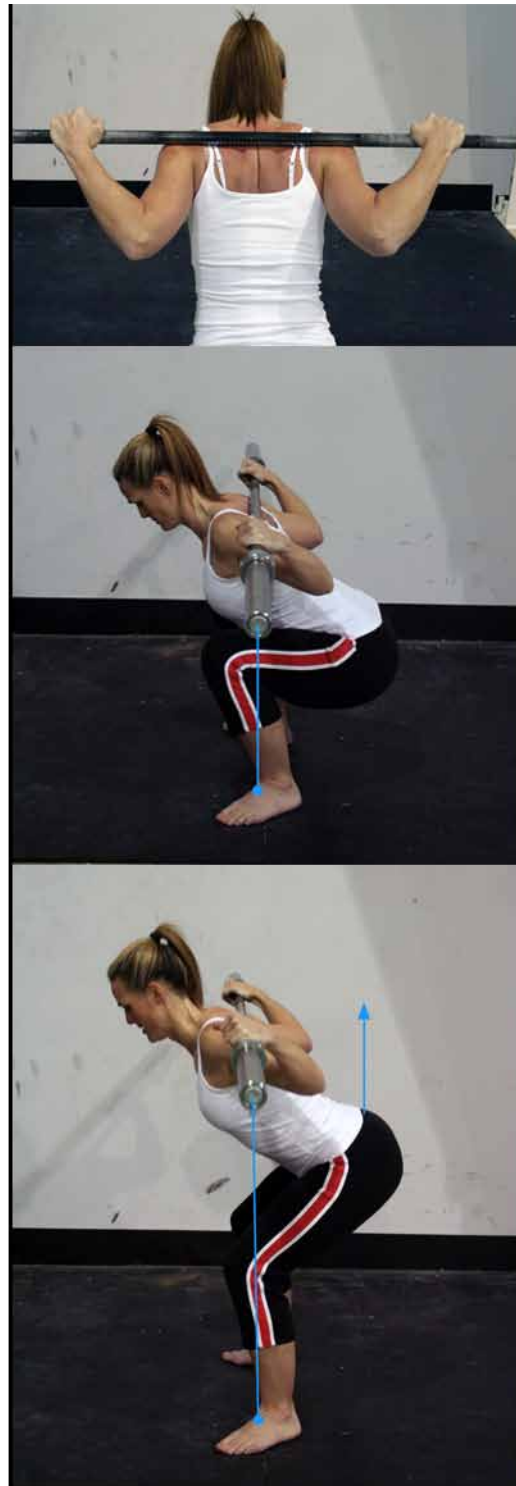
Grip: Fingers and thumbs on top of the bar.

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.

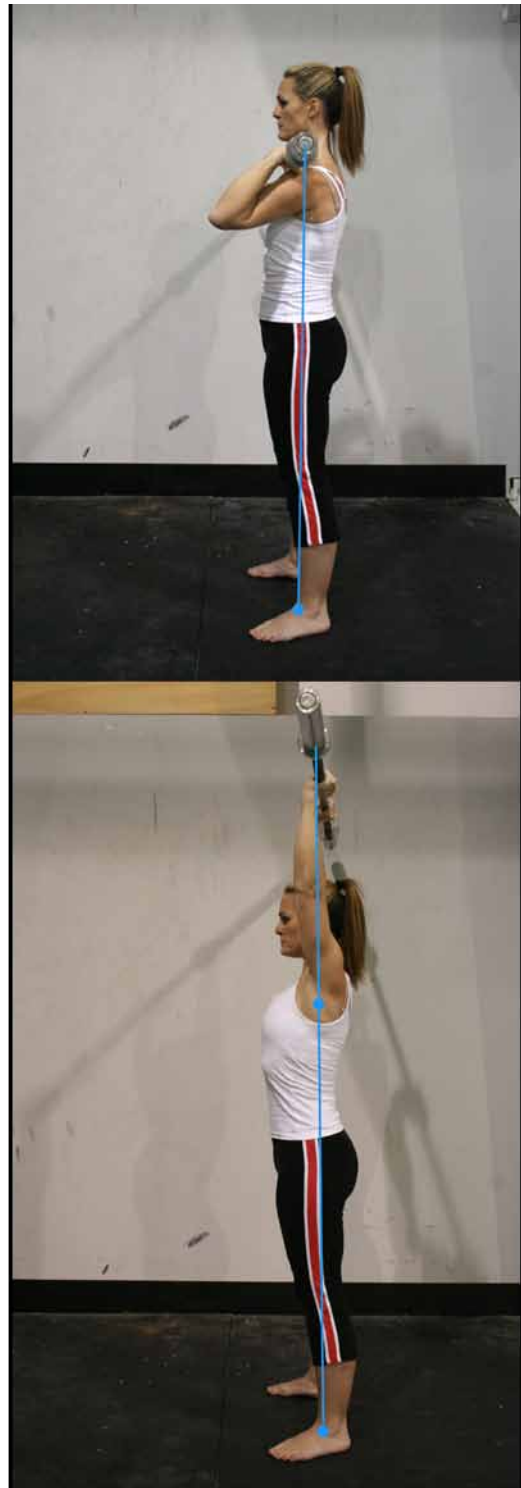
Common errors and fixes:

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.

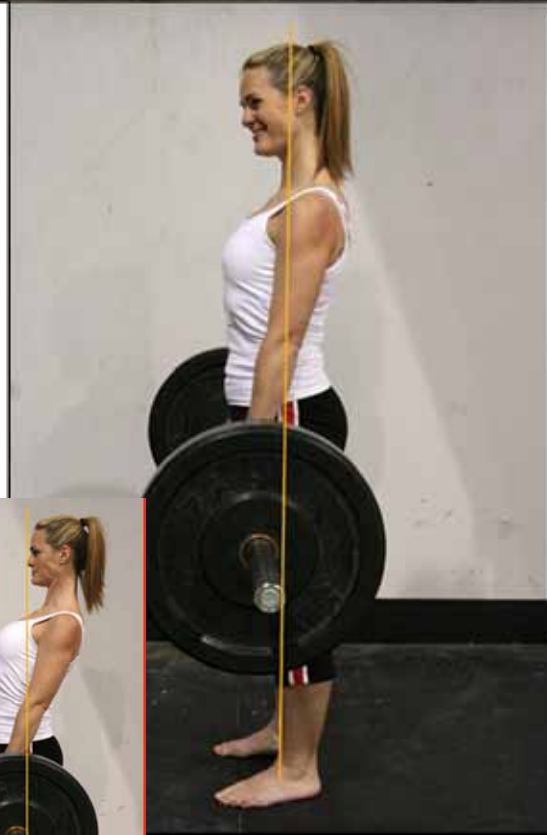
Eyes: Slightly forward and down.

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.



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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 description of this dystopian fitness world was eerily prophetic. It’s obvious he believes such a scenario possible, but is it? A quick



THE POWER CLEAN

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.

Internet search on the topic was sobering. Apparently at least four states across the country have already proposed legislation that would some how 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 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

The bar will float into the air, close to the body. 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]

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 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

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.

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.