

## The Best of CrossFit.com—Byers Edition

In the first of a series, one enthusiastic CrossFitter highlights her favorite treasures buried throughout the immense CrossFit.com archives

Melissa Byers

### **"The Hard Routine"**

**Jason Dougherty**

**CFJ article published May 1, 2008**



The Hard Routine is an article advocating the incorporation of a short duration "hard core" program into your regular training routine. According to the author, the Hard Routine is an exercise in mental toughness, to be used as a catalyst for positive change in daily life. The idea is that the discipline of such a program will yield measurable performance results. The article details a case study that the reader can then use to set-up his or her own program. In fact, the article inspired me to complete my own Hard Routine, and led me to an LBM ("light bulb moment") about how my own mental toughness can best be tested.

I began planning my HR in November of 2008, in a fashion similar to that of the test subject in the article. I assumed that the self-imposed dietary restrictions (no grains, sugars, processed foods or dairy) and lack of any "cheat" meals would prove the most difficult aspect of the program. I also planned to work a heavy number of "goat" exercises—things I did not do well, or did not enjoy. Finally, my program had a strict five-day-a-week schedule, with no allowance for skipped days or make-up sessions. I braced myself for a major suck-fest and got started on day one.

At the end of four weeks, I finished my routine in a rather anticlimactic fashion. No huge sigh of relief, no celebration of success... in fact, no real sense of accomplishment, either. In retrospect, my Hard Routine was more like the "Eh, This Isn't So Bad" Routine. So where did I go wrong? It turns out that for me, accepting dietary restrictions is

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easy. Forcing myself to work “goats” is easy. Sticking to a program without skipping days is easy. Why was all of that so *not* hard? *Because I still had full control over my training program.* Apparently, I can deal with any sort of restriction, as long as I still get to pick the exercises I do every day.

I realized that my *real* Hard Routine would have to center around working *someone else's* programming for a few weeks. Main Page WODs—strict CrossFit, no skipping, bailing or subbing out for another day's workout. I would HATE that. It would feel restrictive. It would give me anxiety. It would be terrifically difficult. But my workouts would be far more varied, and I'd learn new exercises, and I'd probably see gains because of it. AND it would be the most serious mental challenge I can imagine. So guess what I'll be incorporating as the centerpiece of my next Hard Routine?

What this article taught me was more valuable than the physical benefits I gained from the program. I learned, for me, what qualifies as *true* mental toughness. And I guarantee you would learn the same about yourself. As the author states, now it's your turn. Read the article. Be honest with yourself and identify the measures by which your program should be judged. Commit to your own Hard Routine, knowing in the end that successful completion will see you a smarter, fitter, tougher athlete.

**“Intensity”—Video [\[wmv\]](#) [\[mov\]](#)**

**Maggie Dabe-Colby**

**Posted on the Main Site, [August 13, 2008](#)**



Think of the last CrossFit video that moved you, resonated with you, something that stays with you to this very day. This is my video. Maggie Dabe-Colby is an amazing athlete, but her performance as a coach at this Level I Certification is what has inspired me more than any other CrossFit video I have watched. From this video, I have developed my own picture of the kind of coach Maggie might be. And I play this picture over and over again in my head, every time I set foot in the gym.

As I see it, Maggie does not ask things of you, nor does she demand them. She simply *expects* them. One more, three more, five more, she tells you. And you do it, because there is no other option *but* to do it. And when you falter in your purpose, she counts you down—three, two, one, GO. And you go. And you keep going, because if she expects it of you, she must believe that you can DO IT. And so you keep moving, and she continues to move you with her words and her intent and her focus, as if you and that barbell and her voice are the only three things that matter in that moment.



And in that moment, they are.

As I train by myself, in the middle of a Globo-Gold's, I don't have much on-site CrossFit inspiration. So in the middle of a met-con, when I get tired and frustrated, I tell myself that no one would even notice if I stopped for a minute. And then I hear Maggie say, "Three, two, one, go". And I go. When I think I can't do any more, I hear Maggie say, "Just three more." And I think, "I can do three more," and I can, and I do. She has inspired some of my best efforts, and moved me past the point when I thought I would do no more. From 500 miles away, she has been my coach.

If I get the chance to meet Maggie at my upcoming Level I Certification, I guarantee I will have one of those dorky celebrity moments where I grin and stutter and hug her for an awkward amount of time. Then I will ask her to coach me for real. And when Maggie says, "Three, two, one, go"...

I WILL GO.

### "Where's the Girl Power?"

#### CrossFit Message Boards, Community section

In October 2007, a new CrossFitter posted the following message on the Boards: "I just started CrossFit this week... I completed my 4th workout today and I am absolutely HOOKED! I'm a female and as I read through some of these posts, I note that most of them are from males? Where's the Girl Power, ladies? I know that there has to be some of you out there who are as psyched about CrossFit as I am." Thus began one of the most viewed threads in the history of the message boards.

Almost 85,000 views and 184 pages later, CrossFit women are STILL throwing down the Girl Power. And not just women—there are plenty of guys reading and posting too, in support of the camaraderie, encouragement, and accomplishments going on in this thread. We've got HQ employees, affiliate owners, Army soldiers, and gymnastics coaches. We're talking about muscle-ups and birth control, deadlifts and lip gloss, Zone blocks and New Year's resolutions. We brag about our accomplishments, confess our embarrassing CrossFit mishaps and keep each other on track and motivated during tough times. Those who post offer each other the kind of assistance, advice, and friendly ear that you would expect from your closest friends. And throughout every post is one universal commonality—a love of CrossFit and our community.

The Girl Power thread is the best of what the CrossFit community represents, and is worthy of a read and your support. So pop over to the Community section of the



Message Boards and introduce yourself, congratulate someone's fitness achievement, offer advice on a recent post... or just say, "Rock on, Girl Power!"

**"Man Grace"— [\[wmv\]](#) [\[mov\]](#)**

**[CrossFit Again Faster](#), [CrossFit Exercises and Demos](#)**

**Posted on the Main Site, [September 18, 2008](#)**



I visited CrossFit Boston for the first time one Sunday in September. I was going to be at their gymnastics certification the following month, so a friend and I drove down to check out the facility and do a little training. Jon Gilson wasn't supposed to come in that day, but he did, just to say hello. He gave us a tour of the place, and then brought us back to the Olympic lifting area to warm up. It was there that I was introduced to Samantha Keough. She was small and blonde and the cutest thing I'd ever seen—and cleaning weight heavier than I could ever hope to clean in my life. I watched her throughout my entire warm-up, amazed at her strength and tenacity.

On the way out, we were about to say thank you and goodbye when I just had to tell Sam how impressed I was with her Olympic lifting. Because I don't train at an affiliate, I don't often get to see someone lifting heavy like that—never mind a girl. It was inspiring, to say the least. And then Jon told me she was just warming up, because Sam and EC (Eva Claire Synkowski) were planning to do Man Grace the very next day. ("Grace" is 30 clean and jerks, for time. Women's weight as prescribed is 85#. They were planning on using the men's prescribed weight of 135#. Holy crap.) Sam mentioned she was pretty worn-out and wasn't sure if she'd be giving it a go with EC, but to keep an eye out for the video either way.

That was the last I'd heard on the subject, until I saw the video posted on the Main Site on September 18<sup>th</sup>. When I opened up the movie file, I was psyched to see that Sam decided to give it a run. Watching her and EC move that much weight for that many reps impressed me all over again. And knowing that I was there for the pre-game made it that much more personal.

High five, ladies—and thanks for the inspiration.

**Eva T's Front Squat**

**Picture Posted on the Main Site, [May 12, 2006](#)**

Before I started CrossFit, I went to the gym with one shining goal in mind—to look better. Sure, it was nice to feel "in shape," but really, the only reason I put myself through hours on the elliptical and hundreds of walking lunges was to ensure I'd look good naked. And in a bikini. And in skinny





jeans. Thinking about it, there were an unlimited number of superficial reasons why I needed to work out for two hours a day, six days a week.

When I started exploring CrossFit in mid-2007, a friend sent me links to photos and videos of various CrossFit exercises. This picture of Eva Twardoken doing a front squat was one of the photos he included. In retrospect, he was trying to show me that strength and beauty were not mutually exclusive, and that true fitness was about so much more than just looking good. I, however, took one look at Eva and thought, damn, I want those abs. And then I closed the picture and did 100 crunches and probably ate three carrots or something.

Fast forward to a year later, in May 2008. I'd been CrossFitting for about five months, and was working my way through the big lifts. My next goal was a bodyweight front squat, so I started to do some more studying in preparation. I came across this picture again, and it floored me. I remembered it from a year ago, but this time, I wasn't looking at her abs. I was looking at the most beautiful front squat I'd ever seen. And then I mentally calculated how much weight was on the bar, and analyzed her hand position to see how she managed to get her elbows so high, and drew lines from her knees down to her toes to see how well they tracked.

I *envied* that squat. I coveted her form. And I passed right over her six-pack abs. I burned that picture of her perfect form into memory so I could channel it the next time I got under the bar. And when I finally nailed 130lbs, I remember thinking, thanks Eva.

This picture has spent a long time as my laptop screen saver, not because I need the help with my front squat... but to remind me how much CrossFit has changed me. I no longer train to look good—although I've learned that if you keep improving your performance, the body *will* fall into line. No, I keep this picture because it is my direct link to the most important CrossFit lesson I've learned so far. Being strong, and healthy, and balanced—both physically and mentally—is what makes me feel truly beautiful.



#### About The Author

Melissa Byers is a CrossFitter and Certified Kettlebell Instructor in Tilton, NH. She plans to complete her Level I Certification in February 2009, and will be teaching kettlebells at the next NH CrossFit affiliate, opening soon. You can read more about her CrossFit adventures on her blog, [Byers Gets Diesel](#).

## Pulling Exercises: *Hip It Before You Whip It*

Start all barbell pulls with a controlled, precise form that tracks the hips. It'll help you get big weight off the floor smoothly, and ready to accelerate upward in a blur.

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Bill Starr

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Learning how to pull a weight off the floor or a platform correctly can help every strength athlete to better perform a number of very beneficial exercises: power cleans, power snatches, full cleans, full snatches, clean and snatch grip high-pulls, and conventional deadlifts. (These form points do not apply to sumo-style cleans and deadlifts, which I will deal with in a future presentation.)

Although every exercise in strength training consists of a start, middle, and finish, learning how to get a strong start in those pulling exercises is most critical for success with heavy weights.

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It has been my observation that most athletes do not pay close enough attention to this essential aspect of a lift from the floor. Instead, they casually jerk the weight upward, thinking ahead to the finish. But if the start is not perfect for a max attempt, the lift is generally missed. Unless, of course, light weights are being used. Then the finer form points aren't a big factor. However, when the weights get demanding, technique is paramount for a successful lift.

When a weight is moved off the floor incorrectly, the odds of completing the lift go way down. This is because when that first move isn't right, the middle and top are adversely affected, sometimes to a great extent. This is particularly true for power snatches and power cleans since the bar has to be pulled very high. Conversely, when the start is done perfectly, following through into the middle and finish of the lift is a great deal easier to do correctly. Should the bar move out of the proper line during the start, problems will occur. So time must be spent honing the technique for the start if an athlete wants to steadily move the top-end numbers.

### **Find Your Own Ideal Starting Position—and Keep It**

In order to do a perfectly executed start on a pulling exercise, an athlete has to first find where his strongest position is. It needs to be pointed out that there is more than one ideal starting position. These vary from athlete to athlete and are determined by height, body type, and where their seat of power lies.

For example, a taller athlete can utilize his height by setting his hips rather high at the start of a pull. This allows him to use his longer levers, which is always a plus in weightlifting. Yet, this higher starting position is only beneficial when the athlete is able to maintain it in a strict fashion. Should his hips rise up too rapidly, then he will no longer be in a strong pulling position. He will be in a posture that allows him to pull less forcefully. When this happens, he needs to lower his hips to where he can lock into that strong start. Those who possess very strong hips and legs can utilize that source of power by starting with their hips a bit lower. Again, that starting position, whether it be with the back parallel to the floor or much lower than that, must be held firmly through the initial pulling motion.

I've watched many Olympic lifters get set, and just before they break the bar off the platform, they shift their hips either up or down slightly. What they're doing is selecting their strongest position to move the weight upward. This searching move wastes energy and is not

exact. The correct thing to do is to lock into the preferred starting position and not waver an iota on every single rep. Once an athlete has learned how to do that consistently, he is well on his way to heavier poundage on all his pulling exercises.

### **The Bar's Rise Should Track the Hips, So Don't Jerk the Start or Bend Arms too Early**

The basic rule is that the bar must climb upward at the exact same rate as the hips. Concentrate on that simple idea and that movement and the rest of the lift will go smoothly.

Unfortunately, strength-training rookies often neglect the basic bar/hip equation, and rush the start on their power cleans or power snatches. They believe if they can make the bar jump off the floor, they'll have a better chance of pulling the bar higher. Not necessarily.

If that fast start is done perfectly and followed by a flawless middle and top, then it indeed is an asset. However, unless an athlete has spent a great deal of time practicing his form on the start, which beginners have not, then in all likelihood, that attempt at jerking the weight off the floor is going to be detrimental. Here's why.

Jerking the bar upward will almost always carry it out of the correct line of pull. Usually, the bar will run forward.

The quick start will also result in the arms bending too soon, the hips rising up too fast, and the back rounding. All these are negatives and will greatly reduce the amount of weight used on an exercise.

Bending the arms before the bar has passed the waist forces the lifter to lean forward, taking him out of a strong middle and top position. Plus, bending the arms too early also affects the finish. The traps need to be contracted before the arms bend. When these two groups—traps and arms—work in a smooth, coordinated movement, the bar will jump at the top, allowing the lifter to rack the bar on his shoulders or kick it out overhead.

When the back rounds, it is no longer in the ideal position to let the lifter apply full power to the bar at the critical finish portion of the exercise. So a fast start is only helpful to those who have built rock-solid bases and drilled on their form over the course of several years. It just doesn't happen overnight. For everyone else, a controlled start is a smarter approach. Then the athlete can concentrate fully on the many aspects of that initial move and when he does that correctly, the rest falls in place nicely.

In other words, to be successful with a max attempt on





*Notice the difference between the set up position and the pulling position even though the bar has yet to move. This last-minute shift is disadvantageous.*

a power clean or power snatch, the bar does not have to come off the floor fast. More important than speed of movement at this stage is being able to elevate the bar in a very tight line and keep all the groups involved in that effort fully contracted and locked in place. At the start of any pulling movement, form wins out over speed.

The speed comes later, through the middle and at the conclusion of the lift. The bar moves upward like a whip—slow at the beginning, gaining speed through the middle, and no more than a blur at the top. This means that the most important aspect of that initial pull is that it must be in a precise line.

### **A Common Pair of Problems: Lack of Mastery and Weak Links**

There are basically two reasons why beginners and others pull the bar off the floor improperly. One, they have not been taught how to do this move correctly, or haven't done enough reps to have mastered the technique. Secondly, athletes, even experienced ones, break form at the start simply because one or more of the muscle groups that are responsible for this act are not quite strong enough to hold the body in the proper position.

For example, an athlete is doing full cleans and as he works up to his target number for that day, his start is perfect. Yet, on the max attempt, his hips rise up too rapidly, causing the bar to run forward and he misses

the lift. His form break was a direct result of a relative weakness in those muscles involved in holding his hips in the correct placement at the start. This is usually the lower back, but it could also be the hips themselves or the adductors or hamstrings.

In other cases, when the weights get heavy, the athlete begins to round his back excessively, which moves the bar away from his body and out of the intended line of pull. So before an athlete can move forward number-wise on his pulls, he has to take time to strengthen the weaker area or areas. A point that's often overlooked is that form is dependent on strength. As an athlete grows stronger, he must constantly be on the lookout for signs of weaker muscles. A great many are involved in stabilizing that starting position for the pulls: hips, quads, hamstrings, adductors, abductors, calves, lumbers, lats and rhomboids, traps, shoulders, and arms. And the abs play a role as well. It would appear as if nearly every group in the body is part of the start—and this would be right.

If a certain muscle group displays a glaring weakness, it needs direct attention right away. It does no good to keep hammering away on an exercise that cannot be done with heavy weights because of a weak link. Most can be corrected in a short period of time with some specific work. Should a lifter determine that his hamstrings are the problem in not being able to hold the solid start on



his pulls, get on a machine and knock out two to three sets of twenty at every workout. A sign that an athlete has relatively weak adductors is when his knees turn inward on the heavy attempts. Again, the machine will do the job if you hit it diligently; three sets of twenty at every session.

When the back rounds too much, figure out what segment is lagging behind. It could be the middle or top, but more than likely it's the lower back causing the trouble. Start hitting the lumbar with back hypers and reverse back hypers at every trip to the gym and start leaning hard on the good mornings. While calves are not thought of as being body parts that may influence the start, if they are way out of proportion in relationship to the rest of the leg, they can indeed be responsible for a shaky start. Three sets of thirty three-times-a-week will cure that weakness in a hurry.

It's most important that you identify weak areas and if you do not have the luxury of a good coach or training mate who knows what he's doing, this can be a difficult task. While I do not encourage lifters to train in front of a mirror on a regular basis, it can be useful in this regard. An athlete may not even be aware that his hips are rising up too much. But a session in front of the mirror will quickly reveal those form flaws.

However, do not get in the habit of always lifting in front of a mirror. You'll quickly become dependent on visual, rather than tactile, cues. In a short period of time, you'll find that you can't do a lift without watching yourself in a mirror. For anyone planning on lifting in a contest, this will be extremely troublesome.

### The Finer Points of Foot Placement, Grip, Hips, and Creating a Solid Base

I'll mention several other ways to improve overall strength for the starting position, but now I want to go over the specific form points for that first move off the floor. I'll use the clean as my example. Everything pertains to any form of snatching as well, except the grip is wider.

**Foot position:** Pulling a heavy weight off the floor starts with the feet. To find the best foot placement for pulling, shut your eyes and prepare to do a standing broad jump. That's your most powerful thrusting position—feet at shoulder width with toes pointed forward.

Step up to the bar and set your feet so that your shins are touching it. This is the most common mistake beginners make. They set the bar 3-4" away from their legs. The bar must be tight against your legs if you want a perfect start.

**Handgrip:** Reach down and assume your grip. To utilize the grip that fits most, except for those with narrow or very wide shoulders, extend your thumbs on an Olympic bar until they barely touch the smooth center.

**Hips:** Setting the hips may take some trial and error. Setting them as high as parallel to the floor works well for some, while others need to lower them to a place where they feel comfortable. Regardless of where you set your hips, two things must be done:

1. Your frontal deltoids must be out in front of the bar. Not a lot, but an inch or two.
2. You must have a very flat back. No rounding at all. For those who have difficulty getting the feel of what I'm after, I have them stand up, lock their shoulder blades together, then lean down and grip the bar while maintaining that strict back posture.



*Notice that the bar and hips rise at the same rate, the back angle doesn't change, and the bar stays in contact with the shins.*

**Solid base:** Look straight ahead, not up or down. Now you're in the correct position to start the pull. But before you do, take a moment to create a solid base. First, lock your feet into the floor. This can be accomplished by trying to grip it with your toes. Imagine a bird gripping a tree limb. Once that's done, it's rather easy to tighten the muscles in the rest of your body, starting with your legs, moving on up to your hips, back, shoulders, and arms. Become a coiled spring of muscle.

### Practicing the Deadlift is Key

Since the initial move is so critical to success, it has to be done precisely. In order to achieve an ideal start, don't think about pulling the bar off the floor. Rather, think of pushing your feet down through the floor while maintaining a rock-solid body position. When you do that, the bar almost magically lifts off the floor. Once it's set in motion, keep it moving in the same controlled manner, guiding it upward still snug against your legs, with your hips rising at the exact same rate as the bar.

As readers are well aware, what I just described is a deadlift using a clean grip.

(Note: As the bar passes your knees, you enter the second or middle pull of the clean, which is covered in the article "[Scoop & The Second Pull](#).")

The deadlift is the basic move used to improve the start on a number of exercises—power or full clean, power or full snatch, or clean and snatch grip high-pulls—for a simple reason: the muscles and attachments involved in it have to be strengthened in order to lift more weight in any of those exercises.

A frequently told story about Norbert Schemansky, one of America's greatest Olympic lifters, is pertinent. A young lifter approached Ski and asked, "What can I do to improve my overhead press?" Ski replied, "Press." "Well how about my squat?" The answer, "Squat."

Simple but accurate, which in this case means that the very best exercise to do to improve strength in that start of the pull is the deadlift. I know that quite a few Olympic lifters and coaches of that sport shun deadlifts, saying they are done too slowly and belong to the powerlifters, not those doing the dynamic lifts.

Not true. Deadlifts have great value to Olympic lifters and others who incorporate some quick lifts like power cleans and power snatches into their routines. However, I'm not talking about the type of deadlifts that most powerlifters employ, where they round their backs during the lift. Also, I don't think really heavy poundages need

to be used in order for the kind of deadlift I recommend to be beneficial. Since form has to be perfect on every rep, the amount of weight used is much less than when an athlete pulls such a heavy load that the back rounds.

### The Big Three Exercises for a Strong Start

Three exercises that I utilize to build greater strength in the starting position are 1. halting deadlifts, 2. deadlifts done from a lower starting position, and 3. isotonic-isometrics pulls in the power rack. These are particularly helpful to those athletes who have moved into the intermediate or advanced levels. They also can be useful to beginners, but in most cases, they are better off attacking the weaker groups that I went over earlier.

#### Exercise #1

##### Halting deadlifts

Halting deadlifts are just what the name implies. You pull the bar up to mid-thigh and pause for a 2-3 second count, then lower it in a very controlled manner back to the floor. Both the up and down movements are done very deliberately. This forces all the groups involved to work much harder. The back has to stay flat as a board, the knees are not allowed to turn in, and the hips must climb upward in concert with the bar. And, of course, the arms stay straight throughout, the frontal deltoids are always out in front of the bar, and the bar is tucked in snugly against the legs. Pause at the bottom long enough to make sure all your mechanics are right, then do the next rep. The longer you pause at the top of the movement, at mid-thigh, the more it's going to help you, but you may not be able to hold for very long at first.

These, as everyone quickly discovers, are tough. Five reps are plenty, for four to five sets. At the first workout on these, very few are able to handle a weight equal to their best clean—which is okay. In strength training, it doesn't matter where you start, only where you end up. Halting deadlifts not only strengthen all the groups and their attachments that are involved in the start, but it also helps reveal weaker areas. These usually show up on the fourth or fifth rep of the work sets. Once these are identified, take the necessary steps to strengthen them. Start off with relatively light poundages so you can get the feel of the technique, then continue to add weight on each set just as long as your form is perfect.

However, should form break down in any way, stop and lower the weight. A set done flawlessly is worth more than one done with sloppy form with twenty more pounds. Work these regularly, once or twice a week, and you'll soon be using fifty more pounds than you did at

that first session. At that point, they will have a direct, positive influence on your power cleans, full cleans, clean high pulls, and even full deadlifts.

You can also do halting deadlifts with a snatch grip. Use straps on all of these recommended exercises. Straps will let you focus fully on the exercise itself without being distracted with trying to hold onto the bar once the weights get in the demanding range.

### **Exercise #2**

#### ***Pulling from a lower position***

Another way to improve the start is to deadlift with the bar at a lower position than normal. This is useful for beginners all the way up to very advanced strength athletes, and it's rather simple to do. Just use 25-pound plates on the Olympic bar instead of 45s. Or if you normally use bumper plates, use the metal 25s. Pulling from this slightly lower starting position brings some different muscles into the mix. The key to making these beneficial is to set the hips extra low and not allow them to climb up fast or so high that the exercise resembles an almost straight-legged deadlift. Lock the lowered hips in place and squeeze the bar off the floor. You can also do these as halting deadlifts, although most prefer to do a full-range movement.

Pulling from a lower position hits those groups that are responsible for moving the bar off the floor very directly, and the results are immediate. After your very first workout on these, you will be able to tell that your start on any form of pulling exercise is stronger. Plus, you'll be able to utilize ideal form. I had one powerlifter try these; a week later, he improved his personal best on the deadlift by 20 pounds.

### **Exercise #3**

#### ***Pulls in the power rack***

Isotonic-isometric holds—where a weighted bar is moved a very short distance, no more than a couple of inches, then locked into a pin and held for a specific count—were part of nearly every strength athlete's routine during the sixties, but then lost favor for a number of reasons that I will not go into. Suffice it to say, they are extremely beneficial for moving through sticking points and bringing weaker areas up to par. Beginners and intermediates can do these, but they're most useful to those who have been training for some time, mostly because experienced lifters are able to concentrate more fully and this enables them to put more effort into the contractions.

My rule on isometric holds is no less than eight seconds and no longer than 12. The isotonic part is when the

weighted bar is lifted up to the top pins. The isometric contraction is when the weight is held tightly against those pins for a count. With the loaded bar, it's easier to tell if you're applying 100%. With just a bar and no weight, this is more difficult.

Position the pins inside a power rack so that when you do the isometric contraction, the bar will be lower than the normal starting position when it's pulled from the floor—not much, but some. While learning to do this highly concentrated form of exercise, I find it best to do a couple of warm-up sets before tackling the work set. On the first, light set, do three reps. Tap the upper pins on the first two, then hold the third rep for two to three seconds. Do the same thing on the second set with more weight. On the work set, you can follow that same procedure and lock the third set and hold it for the required eight to twelve seconds. Or you can lock in the first rep on the work set for the count. After you become familiar with the isotonic-isometric contractions, you can just do one set, a work set.

Do these at the end of your workout or right after you've finished with a pulling exercise. These can be done at every session, but only do one work set per workout. Keep in mind that the amount of weight used is not nearly as important as being able to maintain perfect body positioning while you're locked into that isometric hold. In most cases, less is better than more in terms of weight used.

Concentrate on the various form points for the start of the pull, steadily hone your technique, identify any weaker areas, then include one or more of the exercises I've suggested to strengthen those areas, and you'll quickly be handing bigger numbers in a wide range of beneficial exercises.



### **About The Author**

*Bill Starr is the author of the books **The Strongest Shall Survive: Strength Training for Football, Defying Gravity**, and thousands of magazine articles. He was the editor of Bob Hoffman's **Strength and Health**, Joe Weider's **Muscle Builder**, and a nationally-ranked Olympic weightlifter and powerlifter back in the day. Bill was one of the first professional strength coaches in the country, has forgotten more about training than most coaches will ever have the opportunity to learn, and makes a very convincing crab cake if you can talk him into it.*

-Mark Rippetoe

## The Broke-Back Comeback

Female Fire Fighters are Less Rare in Flagstaff Due to a Unique CrossFit Rehab

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Tara Paprocki

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In August of 2006, while at the Fire Academy trying to successfully train and test to become one of the only female fire fighters in Flagstaff, Arizona, I broke my back. I was in full “turnouts” and air-dragging a rescue dummy when I tripped and fell backwards, landing on my back and airpack with the rescue dummy on top of me. At the time it certainly hurt, but I didn’t realize the severity of the incident. I continued on at the Academy for another week and a half or so before the pain got to be too much to handle, and I decided to go get it checked out.

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Indeed, there was a reason for the pain: a fractured L2 vertebra. I was asked to leave the Academy due to the injury, and was told that I could return to the next Academy in February if I was cleared by both my doctor and the city's doctor. I truly believe that they never thought six months was enough time to be ready, and that there was no chance they would have to let me come back in February.

The challenge – and the race against the clock – was on! I would be back! They would have to honor their word and let me back in!



### Enter Lisa Ray and CrossFit Flagstaff

At the time I met Lisa and told her what I was up against, she was actually a volunteer at another fire department in town and was working on her fire 1 & 2 certification. She was well aware of the rigors of the job and the kind of shape I needed to be in before I could return to the Fire Academy.

I can't remember the exact date I began working with Lisa, but it was after being in a brace 24 hours a day for four to six weeks and doing nothing. It drove me nuts! It's hard going from an active lifestyle to not being able to do much of anything.

To protect my back and re-build my strength, proper form and technique (with little to no weight) were stressed in the Ray's garage of pain. One exercise, while I was still wearing my back brace, was band pull-ups on the rowing machine. I am ashamed to admit this, but I could not do one pull-up before I met Lisa.

How could I call myself "fit" and think I was strong

enough to complete the Fire Academy when I couldn't perform even one pull-up? So that was one of my first goals: do pull-ups. I was obsessed, addicted. I bought a doorway pull-up bar for my house and my own rubber band. Every time I passed the doorway, I would "grease the groove" as Lisa called it—do a set number of band pull-ups. I will never forget the day I got my first pull-up on that bar. I called Lisa like a little kid, so proud. Next on my list: deadlifting with proper form, then adding weight so I could lift the 200-pound rescue dummy that was my nemesis.

Every time I worked out with Lisa and learned new exercises and proper form, I wished I had met her and CrossFit before the Academy. So much of what she was teaching me was so relevant to many things that I had struggled with at the Academy. All hail Cross Fit. I have said it earlier and I will say it again: I was hooked, addicted, sold. This was amazing stuff. I was gaining strength and doing things with a back that was less than 100%. Things that I could not do before, when I was in good shape and with a back that was 100%.

I was taking my brace off and doing workouts long before I was supposed to by conventional thinking. My form was being watched like a hawk, so if there was ever a time I was not doing something correctly, I was stopped and the form was fixed. I was not supposed to be lifting more than ten pounds from table height, according to my conservative doctor, but I was doing push-presses and cleans with...uggghh...no more than ten pounds, and learning overhead squats—to this day my favorite lift!

We got ourselves a "retired dummy" and "rebuilt" him with some old sand-filled hose and a pair of Carhart coveralls. He became my new best friend! I eventually moved on to live bodies—some of Lisa's other clients and her husband Mike—who were closer to the 200-pound mark. It was quite fun dragging them around the garage and gym. We decided Mike had the best "hand holds" for dragging. (Just ask him or Lisa to see the pictures!)

I could praise CrossFit Flagstaff and the coaching they gave me until I am blue in the face. They are amazing coaches, with incredible knowledge and passion for what they are doing. This stuff works! I can tell you story after story, and goal after goal attained, without end.

I started the next Academy in February, much to the surprise of the city's fire department. I was ready.

My PR was 12 kipping pull-ups. I could lift and drag that 200-pound dummy; no problem. I could get a ladder

from above my head off the truck and carry it. (Being five-foot-four, that was a challenge before CrossFit, when I didn't have the overhead strength.)

Word had gotten out about this "CrossFit stuff" I was rehabbing with. When I did my squats they said, "Oh, that's right—you work out at "that place," as they called it. "You can go below parallel on your squats if you want, I guess."

My pull-up PR could have been in the running for best number at the beginning of the Academy, but "kipping" was considered cheating, and I wasn't allowed to do it. So, despite all of the efforts I put into rehab and gaining more strength, they asked me to leave the Academy once again. Not due to injury, but because they didn't think I was strong enough to perform the job of a firefighter. Lisa believes that Flagstaff City Fire allowed their own political agenda to stand in my way.

I know the truth though: CrossFit helped me to come through a broken back injury that would have made many people unable to continue in the fire service. CrossFit and Lisa Ray's coaching have made me able to pursue the career I have always wanted. I am stronger than I ever have been and continue to be addicted to this crazy thing called CrossFit. And, now, I am a fire fighter.

Today, I am the only woman working for Summit Fire Department, Flagstaff's other fire department. I trained even harder and passed a physical and agility test known for its difficulty. Many people here think that I am crazy because of the large tractor tires at my station that I flip all over the place—plus my ring push-ups, penchant for throwing around weighted basketballs, and doing workouts in full turnouts, to name a few things. But the people at Summit let me do kipping pull-ups and even join me once in a while in my "crazy" workouts. They may not understand CrossFit yet, but this fire department does believe in me and in my strength and ability to perform the job as a fire fighter.



### About The Author

*Tara just finished her probationary year with Summit Fire Department in Flagstaff, Arizona. "I want to thank my husband Dennis, Cross Fit Flagstaff, and Summit Fire Department for believing in me and my strength to do the job when many others didn't," she says. When not working as a firefighter, she is an avid Adventure Racer, in 2008 having completed what she calls, "the hardest thing I've ever done, mentally and physically:" the Primal Quest, a 550-mile round-the-clock expedition race held in Montana. For 2009, she plans to take on the Badlands, which would be her fifth PQ.*

## The 80-Year-Old Guinea Pig

How Special Exercises and Scaled Workouts Got a North Carolina Grandma Moving Again

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Roy M. Wallack

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"I wasn't sleeping. I couldn't get up out of my chair. I had trouble getting the door open and out of the car. I was starting to feel my age," said Leola Schell.

She's 80. As good an age as any to start CrossFit.

"I'd never heard of CrossFit. But my son had—and when he tried to talk me into coming, I thought it was ludicrous," says the long-retired Social Security Administration claims representative from Hickory, North Carolina. "So I humored him."

It was no laughing matter when Schell found out that she couldn't do one pushup. "In fact, I almost couldn't do anything at all, except for one squat down to an 18-inch bench," she said. "I wouldn't have believed you if you told me that soon I'd be doing tons of them—and going lower."

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1 of 5

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### STAMEY'S SPECIAL G-MA EXERCISES FOR THE ELDERLY

#### 1. Floor crawl:

Getting on the floor and crawling around on hands and knees gets the blood flowing without troubling the client—and the trainer—with fears of falling.

#### 2. Push-ups:

Stamey employs a three-step progression to build chest strength:

Step 1:

Stand up, lean, and push away from the wall.

Step 2:

Using a table or a bench, hold your body at an angle and push up.

Step 3:

Do knee pushups. Get up to 5 sets of 10 and then go to regular pushups.

#### 3. Modified rope climb:

G-Ma grabs the rope in standing position, then squats as she walks her hands down to lower herself to where her butt touches the floor. Then she does the same motion in reverse, pulling herself up without assistance from the legs. "She's not pulling full body weight this way, but still pulling herself up," says Stamey.

Scaling means that most of the members of CrossFit Hickory, like Schell, do not do the prescribed WOD; out of 60 clients, only 15 do it all, with a handful on the cusp.

"I feel everybody out individually," says Stamey. "A few new people can handle the prescribed workout, but at first I set up most of them with lighter weights—instead of 95-pound thrusters, they'll do 65-pound thrusters. They all do the regular prescribed reps, so they get the feeling of doing an entire workout."

That doesn't mean Stamey goes easy on them. "I try to hurt them just enough so that they know they got a good workout," he says. "Yeah, if they are cocky and badass, I'll throw 'em all the way into it. Because if I scale back too much with fit people, they'll think it's a pussy workout."

"CrossFit humbles everyone—and, in fact, has to humble them to work." Only two or three have quit because it was too hard; none have left the gym because it's too easy.

Example: A lady about 35 years old came into CrossFit Hickory for the first time in mid-December. Stamey had her do three rounds of ten 10-pound wall balls, ten 17-pound kettlebell swings, and ten 17-pound ball slams.

"When she was done, she said, 'I feel like I can do some more.' I said, 'No, that's enough.' I smiled when she came in the next day and said, 'I'm so sore.' Now, she doesn't question me. Today, I had her do a half-Cindy—3 pull-ups, 5 pushups, and 7 squats 10 times."

#### Ready for G-Ma

At age 80, Schell—who Stamey calls "G-Ma," short for Grandmother—required him to take scaling to a new level. Fortunately, despite her initial skepticism, G-Ma was not a hard sell, given that she had a long-established routine of long morning walks and had seen first-hand the rapid fitness improvements of close family members who'd trained at CrossFit Hickory: her son Ben, 45, his two daughters and her granddaughters, volleyball players in high school and college, plus G-Ma's daughter, a visiting college professor from Seattle.

Stamey had started the professor, a recent car-accident victim who suffered from short-term memory loss, with rowing in order to safely build all-body flexibility, strength, and coordination. "Rowing teaches you a lot about technique and timing that can help you in the other exercises," Stamey says. "I think it's almost like a hitter taking batting practice."

**4. Virtual shovels:**

Take a 45-lb bar (for men I'll add 25-lb plates to the bar). Grab it like a shovel and put it in a wheel barrow, as if you're dumping shovels full of dirt into it. "I saw this on CrossFit video," says Stamey. "G-Ma likes this because she does a lot of gardening."

**5. Ball chase:**

Squat down to grab an 8-pound D Ball (the heavy yellow non-bouncing ball that you do a ball slam with), slam it 10 times, then pick it up, put it over your head, step in your intended direction, and throw it. "I came up with this one by watching little kids who came with their parents to the gym throwing the ball back and forth," says Stamey. "G-Ma throws it about 15 feet." Then she has to run over and grab it as fast as possible and do it again. Do 10 sets of 10.

"I don't have G-Ma run much normally—she'd rather row. If there's a run, she'll row. Sometimes, the rowing will get her in the mood for running."

**6. Sledge hammer swings:**

"G-Ma likes this because she will use a sledgehammer while gardening," Stamey says. As part of a CrossFit workout, she'll take an 8-pound sledgehammer and beat a big truck tire. "I'll have her do three rounds of a 500-meter row, 10-to-15 pushups, 10-15 squats, and 30 sledgehammer swings, 15 on each side."



Then, seeing that her equilibrium was fine and her only problem was remembering the counting, he phased her into scaled-back workouts featuring push-ups, box step-ups, and an intense Tabata-style rowing workout of 20 seconds on and 10 seconds off. Before she returned to Seattle, she came up to him and asked to join the regular workout.

"When Ben saw how I was able to scale it for his sister, he brought up his mother and asked if I'd be interested in taking her on," said Stamey.

Hearing that G-Ma was unable to sleep and was having increasing difficulty walking up stairs and getting up out of chairs and car seats, Stamey started her with 500 meters of smooth, easy rowing for 5 minutes to warm-up joints and get loose. Then he tried something new for him and her: Crawling. Specifically, crawling under and over weight benches.

"I watched the video on the CrossFit website where Jim Baker talked about the elderly's biggest fears being falling and not getting up," says Stamey. "I remember thinking that it seemed smart to get old people comfortable with crawling because it's so functional. After all, if they fall, they have to crawl and get up. If there's a house fire, they have to crawl out."

At first, G-Ma was a bit taken aback. "Crawling—are you serious?" she said. "But I gave her my rationale and she didn't fight me," says Stamey. He grabbed three benches and built a CrossFit workout around crawling. G-Ma would have to crawl under one bench, do 10 ball slams, climb over another bench, do 10 kettlebell swings, then crawl under a third bench, followed by 10 squats.

After three months of CrossFit, including recently moving on to scaled-down WODS, Stamey keeps G-Ma crawling. "I like the getting-down and getting-up, the whole keeping-your-balance thing," he explains. She also does a lot of step-ups on a 12-inch box, and likes it, he adds, given that it directly addresses her trouble in going up and down stairs.

Now attending the gym four days a week, G-Ma's doing full workouts. On Dec. 23, she did the "12 Days of Christmas" WOD of burpees, pull-ups, and knees-to-elbows. She has graduated from a ring row to pull-ups with a band.

Besides the crawling, Stamey has concocted a number of unique G-Ma-specific exercises that he plans to use someday on other elderly and newbie CrossFitters, including modified rope climbs, virtual shovels, a ball

chase, and sledgehammer swings (see sidebar for details on these).

"G-Ma is my guinea pig—and I'm the mad scientist," he says. "The other day, we got her doing back extensions. We stood there beside her, and helped her get up. I'm learning as I go along"

Of course, helping matters is the fact that G-Ma never complains or gives up. That's no surprise to her family and those who know her.

Leola Schell had six kids—and a husband who died when they were very young. "I didn't remarry. I just worked all the time," she says proudly, "and I got them all through college—including a doctor, one with a doctorate, two with Masters degrees, and two with Bachelors." She took Social Security disability and retirement claims from people for 30 years until her retirement at age 62.

Schell stayed relatively fit over the years by moving. "I'd walk, walk, walk all the time, a mile-and-a-half a day," she says. "When I'd go to the store and see old people who can hardly move, it'd seem like such a shame." Today, she gets up at 5 a.m., does her walk, does some gardening and shopping, and heads to CrossFit Hickory four times a week.

Three months ago, Schell couldn't pull herself off the floor by pulling hand-over-hand up a rope. Now, that's a breeze, and for good measure she can hang on the rope for three seconds. "Now, I sleep at night," she says. "I can pop up and down out of bed in an instant. I'm getting stronger every day."

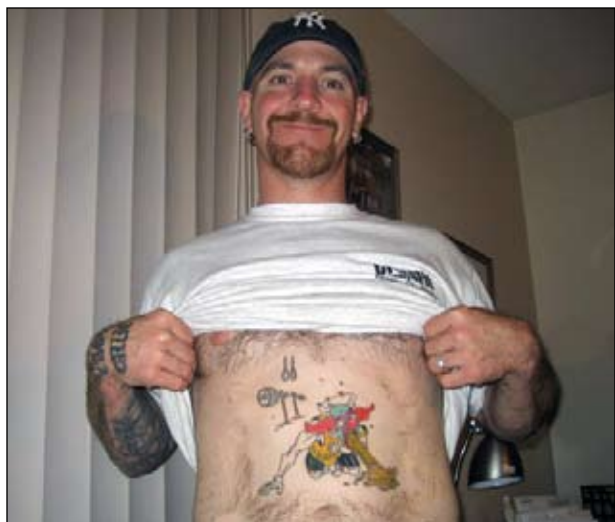
There's a resounding confidence in her voice, a confidence Stamey has seen many times before in his gym.

"G-Ma came in at first just to please her son," he says. "Then she drank the Kool-Aid."



### About The Author

*Roy M. Wallack is the Senior Editor of the CrossFit Journal*



## A CrossFit Startup Guide: Part 1

Here's a quick overview to get CrossFit beginners up to speed

Todd Widman

New to CrossFit and not sure where to begin? If so, then welcome. This series will address the primary concerns and focal points for a starting CrossFit athlete, orienting your use of resources throughout the entire [CrossFit.com](http://CrossFit.com) universe.

What you will find here are some tools to focus your entry into CrossFit workouts and fitness in general. Gone are the promises of easy and comfortable results. The best CrossFitters educate themselves both about movement and fitness broadly, as well as about their own individual strengths and weaknesses.

Of course, the best way to begin CrossFit is with a great trainer who uses his or her vast experience to guide you through the various phases of your fitness quest. This series is not intended to equal that. It cannot. Instead, we recognize that not everyone has access to such a trainer, and this will help those folks get the most out of the vast resources available on [CrossFit.com](http://CrossFit.com).

### Three-part Charter: Mechanics, Consistency, Intensity

The first and most important component of beginning CrossFit is to follow our charter of mechanics, consistency, and then intensity. These three aspects are intricately interrelated; CrossFit does not work to its potential unless you execute each one and understand how it is bound to the others.

*Mechanics* refers to technique—your ability to move properly through our core movements. For us, this





means moving yourself and external objects in the most efficient, effective, and safe manner possible.

*Consistency* has a two-part application: 1) That you are consistent in performing the mechanics of the movement; and 2) That you are consistent in CrossFit workouts. Both are necessary! CrossFit workouts are very potent medicine; too much too soon and you can severely hurt yourself. Luckily, the body adapts quickly, and before you know it, you will be hitting each workout with maximum personal intensity.



*Intensity*, as Coach Greg Glassman, founder and CEO of CrossFit, formally states, is the independent variable most commonly associated with the rate of return on favorable adaptation. More simply put, intensity brings about all the good results from working out. However, we also have to realize that intensity is relative to our physical and psychological tolerances. This is a process, and one that takes an indeterminate amount of time, so be patient. Elite-level athletes may be ready to ramp up their intensity in a couple of weeks, while de-conditioned athletes can take months or longer. The goal of CrossFit

is to improve your fitness for life; no one ever got in shape overnight. If you gradually exceed what you have done before, soon enough you will be doing the main site workouts “as prescribed.”

*All three together:* Now that you understand mechanics, consistency, and intensity, here’s how they all fit together under CrossFit: While many assume that safety is the main concern with proper mechanics—it is certainly the safest way to train—we can’t emphasize enough that sound technique is the most efficient and effective road to fitness. Proper movements will allow you to lift more weight, perform more repetitions faster, or both. More work in less time means higher average power (force x distance / time = power). Higher average power means higher intensity. Higher intensity means better results. Therefore, proper mechanics are the ideal supports for the bridge to fitness.

### A Brief Explanation of Fitness

Fitness, most broadly defined, is the ability to handle the demands of your life. Each of us has both different and unpredictable demands. A firefighter has no idea how big the fire will be on his next call, just as Grandma has no idea how heavy each grocery bag will be the next time she goes to the store. Very different concerns, for certain, but the ability to handle each requires the same basic abilities. As Coach Glassman has said for years, “The needs of our grandparents and soldiers differ in degree, not kind.” These needs are the functional competencies to move our own bodies and external objects through three-dimensional space.



The CrossFit exercises that we use the most are what we have found to be the most effective ways to build a broad, general, and inclusive functional competence. Squatting, picking things up off the ground, putting things overhead, pulling ourselves up, running, jumping, throwing; these are the movements of life, and done with intensity, they prepare us for the demands of life.



Many people wonder why CrossFit workouts are timed. There are several reasons for this, the most important being intensity. Remember that average power is work divided by time. The same work done in less time is more power and more intensity. Your first workouts should be done at a relatively low intensity. This is essential for you to both learn the proper mechanics of the movements and to let your body acclimate to the workload. Every time you repeat a workout, you can compare your performance and see if you are increasing your power (therefore intensity). For example, if you do

exactly the same number of reps at the same loads in less time, your intensity went up. If you increased the loads and kept the same time (or finished even quicker), your intensity went up. These direct comparisons give you a quantifiable gauge to the increase of your fitness. You are measuring the changes in your capacity and scientifically proving that you are getting fitter and more capable.

CrossFit has a concise yet comprehensive definition of fitness that is a bit of a mouthful: ***Fitness is increased work capacity across broad time, modal, and age domains.*** What this means is that you have functional capacity in all different types of movements at a variety of durations of effort, throughout your life. If you are increasing this broad work capacity, you will be competent at both short bursts of activity and extended, longer workouts.

The great majority of functional movements are complex and difficult to master. But the advantages of developing proficiency in them far outweigh the inconvenience and effort required to learn them. There are physical and neurological benefits uniquely associated with these movement patterns, benefits that translate broadly into the various movements and skills of life.



For a more in-depth discussion on technique and its affect on fitness, read Greg Glassman's revolutionary feature CrossFit Journal article, *What Is Fitness?* <http://journal.crossfit.com/2002/10/what-is-fitness-by-greg-glassman.tpl>

### Start with the Squat

"There is no better place to start an examination of functional exercise than by learning how to squat."  
-Greg Glassman



*Early Seminars - The Squat 4-15-05* by Greg Glassman, Oct 24, 2008, for another excellent description on the basic fundamentals of the Squat in video format from an early CrossFit Seminar. <http://journal.crossfit.com/2008/10/early-seminars---the-squat-4-15-05.tpl>

And *Air Squats*, the main page video example of our elemental movement. Video - [\[wmv\]](#)[\[mov\]](#)

Before we begin a discussion of the squat, check out these foundational explanations of our most essential movement.

*Squat Clinic* by Greg Glassman, Dec 01, 2002, for a quintessential article on why and how to perform the squat, with performance standards, potential faults and fixes for the movement. <http://journal.crossfit.com/2002/12/squat-clinic-by-greg-glassman.tpl>

How is your squat? Does it look like the models in the article and videos above? If not, there is no better prescription for your fitness than moving toward a perfect squat. If your squat is pretty good (going to full depth!) and you have been working out for a while, then try testing yourself with *Tabata Squats*.

The Tabata interval, adapted from Dr. Izumi Tabata, is a regularly used CrossFit training device of 20 seconds



of work followed by 10 seconds of rest, and repeat eight times. For *Tabata Squats*, perform as many full range of motion air squats as you can in 20 seconds, then rest for 10 seconds, repeated eight times consecutively. Your score is the single lowest number of repetitions in any of the eight rounds. As an approximate benchmark, if your score is 12 or above, then you have achieved a working proficiency in the squat and can move on comfortably.

If your lowest score is 11 or below, continue to try and attain a level of proficiency and capacity in the squat, the foundation of core movements. You do not need as much variety nor do you have a need for the more complex movement patterns yet. Progress in the squat is the primary need for your beginning fitness, and it will carry over into all realms of fitness.

For remediation and further information regarding the squat check out the following CrossFit resources:

1) *Coming Forward Onto Toes*. In this short clip, Nicole Carroll points out this very common fault in people's squat technique. Note what she is looking at on Anny and her cues to fix the movement. [[wmv](#)][[mov](#)]

2) *Why Heels?* This a great clip of Coach Glassman explaining why we must be so focused on keeping the heels on the ground during the squat. [[wmv](#)][[mov](#)]

3) *Squat Therapy*. Nicole and Coach take Laura through an excellent remediation exercise, referred to as Squat Therapy, used to improve the capacities within the Squat. [[wmv](#)]

4) *Going Deep* by Mark Rippetoe, CFJ Issue 49, Sep 2006; This is a detailed, anatomy-based discussion of the 'how to' and 'why' of going to the crease of the hip below the knee in a squat. <http://journal.crossfit.com/2006/09/going-deep-by-mark-rippetoe-se.tpl>

5) *You Don't Know Squat Without An "Active Hip"* by Mark Rippetoe, Nov 26, 2008; This is a very well-written article on why you need to push your knees out at the bottom of the squat, as well as turn the pelvis over hard throughout the full range of motion, actively engaging the lower lumbar spine. <http://journal.crossfit.com/2008/11/you-dont-know-squat-without-an-active-hip.tpl>



6) *CrossFit Kids – Teaching The Squat* by Jeff Martin, Oct 6, 2006; This is an excellent short video of Jeff Martin talking through some different cues to help portray movement mechanics to kids as well as adults. <http://journal.crossfit.com/2008/10/crossfit-kids---teaching-the-squat.tpl>

### The Next Step: Base Proficiency Benchmarks

For those with a score of 12 or more for Tabata Squats, and who possess acceptable to excellent mechanics, I have come up with a list of "base proficiency" benchmarks. The purpose of these benchmarks is to give you a sense of the skills you need before you should embark on scaling regular CrossFit workouts. In other words, regular, scaled CrossFit workouts assume that you have achieved a certain base capacity in a variety of movements. The movements below are also a general gauge of whether or not you have those base proficiencies. The list is not perfect, but if you find that you cannot perform any of the below listed skills, working on those particular deficiencies is more important than doing regular CrossFit workouts.



- 10 overhead squat with PVC
- 10 push presses with a barbell equal to 1/3 of your bodyweight
- 5 deadlifts at 1/2 bodyweight
- 5 push-ups from knees with hands on ground (men) or on a bench (women)
- 5 jumping pull-ups
- 10 wallballs to a target two feet above your reach with an 8-lb. ball (men) or a 4-lb. ball (women)
- 10 Abmat sit-ups with feet anchored



If you are not sure what each of these is, stay tuned to future articles, for I will be covering all of these movements, as well as many more. But if you already know what they are, and have the ability to perform them, you have enough capacity in moving your body and external loads to begin scaling regular CrossFit

workouts if you want. You can find further information and tips on scaling main site workouts within the following CrossFit resources. We will also be covering techniques and approaches to scaling in future articles.

1) *Scaled Workout Demo*. This is a perfect video example of how everybody does the same workout (preserves the same stimulus) but there are infinite ways to scale the workout, designing each specifically for the athlete's capabilities and limitations. [[wmv](#)][[mov](#)]

2) *A Beginners Guide To CrossFit* by Greg Glassman, Oct 01, 2004. This is an excellent article written by Coach pointing out the relevance of CrossFit for all athletes, regardless of age or fitness level; the key being scaling and preserving the stimulus of functional movement. <http://journal.crossfit.com/2004/10/a-beginners-guide-to-crossfit.tpl>

3) *Assistance for Bodyweight Exercises* by Greg Glassman, Aug 01, 2004. This article is an easy to follow breakdown of how to scale for gymnastic exercises, replete with numerous pictures to demonstrate the description. <http://journal.crossfit.com/2004/08/assistance-for-bodyweight-exer.tpl>

4) *Seniors and Kids* by Greg Glassman, Feb 01, 2003. Another great article briefly explaining the basics of scaling for all levels of fitness. <http://journal.crossfit.com/2003/02/seniors-and-kids-feb-03-cfj-1.tpl>

5) *CrossFit SV Beginners' Ladder* by Judd Xavier and Tom Rankin, Oct 21, 2008. A fantastic scaling and benchmark tool written up by the owners of CrossFit Silicon Valley to aid beginners in attaining the goal of using the WOD's off the main site. <http://journal.crossfit.com/2008/10/crossfit-sv-beginners-ladder.tpl>

6) *Training For The Aged* by Mark Rippetoe, June 01, 2003. An excellent, no-holds-barred discussion of the importance of working out and lifting weights for all, especially the elderly. <http://journal.crossfit.com/2007/06/training-for-the-aged-by-mark.tpl>

7) *The Girls For Grandmas* by Greg Glassman, Oct 01, 2004. This is a write-up by Coach showing some concrete examples of how to scale CrossFit Benchmark Girl workouts. <http://journal.crossfit.com/2004/10/the-girls-for-grandmas-by-greg.tpl>

8) *A CrossFit Grandma* by Mary Conover, Oct 01, 2004. This is an amazing personal account written by one of Coach's elderly clients, talking through how she has found innumerable gains in fitness through scaling CrossFit workouts, as well as some of the scaling that has taken place for her workouts. <http://journal.crossfit.com/2004/10/a-crossfit-grandma-by-mary-con.tpl>

9) *CrossFit Induced Rhabdo* by Greg Glassman, Oct 01, 2005. This is a very important article addressing one of the very real potential dangers of hitting the WOD before you are fit by the standards of CrossFit; a must read for anyone thinking about scaling or attempting the main site workouts, particularly without a gradual introduction to functional movements and intensity. <http://journal.crossfit.com/2005/10/crossfit-induced-rhabdo-by-gre.tpl>



### Finally, A Word about Nutrition

Oh, if only we could eat whatever we wanted and still get great results. But the simple and unavoidable truth is that without eating a balanced, moderate diet, you will fall far short of your potential. In fact, the first question that experienced trainers ask when people don't see normal gains with CrossFit is, "What are you eating?"

When speaking of nutrition one must think of it as fuel, not a diet. What you put in is what you get out, and you will not get the results you deserve without addressing nutrition. Of all the things you hear about nutrition, however, the one that must remain at the forefront of your dietary decisions is the fact that you

must eliminate chronically elevated insulin levels by controlling excess carbohydrate intake. Think of fuel in three macronutrient categories: carbohydrates, protein, and fat; and balance them for every meal with a ratio of 40-30-30 respectively.

For two video clips chocked full of more in-depth information on the basics of nutrition check out the two links below.

1) *Hyperinsulinism and Diet* by Robb Wolf, Sept 07, 2008. This is a perfect introductory lecture on nutrition and the effects of elevated carbohydrates on the body given by CrossFit's top nutrition expert. <http://journal.crossfit.com/2008/09/hyperinsulinism-and-diet.tpl>

2) *Nutrition: The Teeter-Totter* by Nicole Carroll, March 01, 2008. A second must-watch clip featuring director of training and CrossFit superstar Nicole breaking down nutrition and its importance to your fitness. <http://journal.crossfit.com/2008/03/nutrition-the-teetertotter-by.tpl>

And, for two athletes' personal accounts of sticking to a balanced diet, check out these two Journal articles:

1) *Getting off the Crack* by Nicole Carroll, October 1, 2005. The insulin spike that comes after eating too much or too many carbs is as addicting as crack. Eating a balanced diet changes your view of that forever. <http://journal.crossfit.com/2005/10/getting-off-the-crack-by-nicol.tpl>

2) *Diet Secrets of the Tupperware Man* by Greg Amundson, December 29, 2008. Greg describes his experience implementing the Zone while being a full time Sheriff's Deputy. <http://journal.crossfit.com/2008/12/diet-secrets-of-the-tupperware-man.tpl>



### About the Author

Todd Widman is a former Marine, and one of CrossFit's top trainers. He spends a significant portion of his time traveling around the country (and world) working the CrossFit Level 1 and Level 2 certification seminars. Todd is also a coach at [CrossFit Flathead](#) in Kalispell, MT.

## Triathlete Does CrossFit, Gets Faster—and Gets a Life

World Championship Improvement on Less Training Time for Canadian Age-Grouper

Karl MacPhee



In my early years of training for triathlon, I bought into the philosophy of volume, volume, volume: that through more swimming, biking and running, I would soon be pushing out faster times in my races. Of course, it worked. I did get faster, and my race times overall improved—until I reached a plateau. At that point, I found that in order to get faster, I would again have to turn up the volume, increasing my time in the saddle, on the pavement and in the pool. So I did, and I got even faster. And I increasingly hung out with people who shared the same philosophy: other multi-sport athletes. I joined them in a world all our own, doing triathlete things with triathlete people.

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Eventually, after a few years of living on my own planet, I began to realize that I had family and friends outside the triathlon world that I had been neglecting over the years. So, in order to continue competing in triathlons, I would have to come up with a more effective, less time-consuming approach to training that achieved similar, if not better, results than my previous training style. Considering that many triathletes become brainwashed with the idea that there is only swimming, biking and running, and nothing else, the fact that I was willing to consider change was a big first step.

My position as a high-school strength and conditioning coach has many demands, from football, soccer, basketball and volleyball to cheerleading; so researching and developing programs for various sport programs was something that I was used to doing. Initially, I realized that I was lacking in overall strength, so I began training in the programs that I prescribed for the football team, which consisted mainly of the core lifts (deadlift, squat, pull, press, rotations, and Olympic lifting), with speed, agility, and core training to supplement their strength and power. Compared to the mainstream “endurance training” that I was using to train for triathlon, this style certainly got boring with its longer rest periods and the repetition of drills each week. I get bored very quickly, so to follow one style of training for a month is a long stretch for me. Over time I became more familiar with the Olympic lifts, and my strength certainly increased, but there was still something missing.

I was then introduced to a more “holistic” style of training which involved a combination of strength, endurance, and cardiovascular training as well as Ashtanga yoga, meditation, and a more conscious approach to nutrition and daily activities. As much as I appreciated the results of this training—physically, mentally and spiritually—I found that it was difficult to fit in the high volume of training hours and dedication to the small things each day, so I eventually decided to look elsewhere.

Then, three years ago, I came across the CrossFit.com website, and fell in love with the idea that the workouts are short, varied, and always difficult. This style of training fit perfectly with my triathlon racing because it included time for family and friends.

My first workout was Cindy, and I was sore for five or six days. I did 19 rounds, which I thought was a pretty good score, until I saw that the records were up there close to 30 rounds at the time! I was humbled into giving CrossFit a chance for a while.

To immerse myself in the CrossFit philosophy I signed up for the Journal and changed my home page so that I would see the WOD immediately in the morning. I spent countless hours viewing the comments, discussions, and videos. Building upon my background in athletics and six or seven years as a strength and conditioning coach, I applied the CrossFit principles to my own training and work. The athletes I was working with seemed to enjoy the new style. And my own results improved.

In my prime as a multi-sport athlete focusing on swim, bike, and run with some endurance-based weight training, I weighed 155 pounds. At 5-foot-10, this is not a lot of weight, and my friends and family often commented on how thin I was. Ironically, I ate like a horse; I was probably downing close to 3500-4000 kcal per day—yet was always hungry. Again, this is typical for a multi-sport athlete who puts in long hours of cardio each week.

### BIG CUTBACKS IN MILEAGE

Within the first six months of training with the CrossFit principles, I gained about 15 pounds and was back to a respectable 170 pounds. Now, I should also mention that I quit swimming altogether, stopped the two weekly cycling sessions with my club, and only ran to work, rather than running on the weekend. So my cardio or LSD training consisted of cycling to work 3-4 times per week, and running to work once a week. This is a 25 km round-trip on the bike and a 12.5 km run (I'd take the bus to get home on run days). I didn't do any more intervals, so my commutes to work were simply joy rides.

My strength-training schedule basically followed the five-day schedule from CrossFit Journal's “Theoretical Template for CrossFit's Programming,” published in February 2003. This was a tremendously helpful resource, and I used it quite often to create triplets, couplets, and single exercise sessions of my own that would soon be hated by all of my athletes! The combination of decreasing my LSD hours and applying the CrossFit principles decreased my training time by about 8-10 hours a week. I was soon noticing consistent results in strength, power, and metabolic conditioning throughout.

After a full year and a half of following the CrossFit principles by using the WOD or a similar self-created workout, I decided to sign up for a local Olympic distance race, the Edmonton BG Triathlon World Cup, which served as a qualifier for the 2006 Age Group Championships in Lausanne, Switzerland. In order to qualify, I would have to finish in the top four in my age group (30-39), traditionally one of the toughest groups.





I signed up for the race four weeks in advance, and decided after 18 months of not swimming that I should train a couple of times a week so that I wouldn't drown during the race. Four weeks later in Edmonton I blasted off the start line with confidence that my last 18 months of training in the gym had given me the ability to qualify. The feeling got stronger as the race went on. I finished comfortably in 2:21, which was good enough to qualify for the World Championships!

This marked the first time that I qualified for the Worlds, and was also my fastest time on this course. One month later, in Kelowna, BC for one more pre-Worlds race, I improved my time and overall standings with a PR of 2:16. Adding to the triumph was the fact that I was able to celebrate it better; instead of my normal post-race headaches and lethargy, my post-race recovery was so good that I actually enjoyed the remainder of the day.

I signed up for my spot on the National Age Group Team

and began another six weeks of training for Lausanne.

Rather than wasting my time on long rides, runs and swims, I focused my training in all three disciplines, as well as three WODs per week. I have to admit, none of my training sessions were a cup of tea, and they were all about 45-60 minutes in length, other than the "brick" (back-to-back bike-run) workouts, which I did on the weekends. In the bricks, I created a course that was very similar to the course in Switzerland, and pushed myself through intervals in the bike and run, and added two swim sessions per week. This training schedule had less volume than those of the previous 18 months, yet packed plenty of punch.

I wove CrossFit principles into every workout, treating each swim, bike, and run session as if they were the WOD, and broke them up into sections. Some were for time, while others were for max rounds. In each workout I would complete a quality warm-up of skill drills such as single-leg spinning on the bike, technique drills in the water, and track and field or dynamic movement drills prior to the run. Doing so helped to prepare me mentally and physically for the upcoming training session. I did not experience any injuries throughout my training. Tabata workouts were a favorite for all three disciplines. Favorite is a term that I should use sparingly, as hammering up a hill on the bike or running during several rounds of 20 seconds hard with 10 seconds easy, was not fun. However, after a few weeks I noticed that the power I gained through this format certainly improved my overall conditioning.

Because the course was 40 km in the bike and 10 km in the run, I created a circuit that matched a two-exercise session in the gym. I would hammer on the bike for approximately 3 km, practice my transition and run about 750 m to 1 km and continue this workout to complete as many rounds as possible in 20-30 minutes. In the water, rather than just swimming intervals as I had in the past, I would challenge myself to complete specific distances for time, such as 750 m, or 1000 m. Although these sessions may not be new to many people, and certainly weren't for me, it was the approach to each triplet, couplet, and single-session application that made the difference. Rather than dreading the upcoming session, I created a challenge based on what I learned from the CrossFit workouts I had been doing in the gym. This challenge encouraged me to try to improve on my scores from previous sessions, and, in doing so, this trained me for the feeling that would arise in the minutes before the start of my races.

CrossFitters all know that nervous feeling that they get just before we hear the 3-2-1 GO! Having experienced this in just about all of my workouts, I was less nervous as I joined my competition in Switzerland.

I was ready.

### TAKING ON THE WORLDS

Once in Switzerland, I looked back at my training, and appreciated where it had taken me. While talking with the other athletes who were representing Canada, I soon realized how lucky I was not to have wasted away my time in the previous year focusing on triathlons.

In the previous 18 months, I didn't specifically train for triathlon. I didn't swim, and I didn't worry about winning races. I simply trained for life. I enjoyed a variety of activities such as squash, snowshoeing, yoga, and hockey. I appreciated quality time with my family and friends.

Finding CrossFit changed the way I train; it has also changed the way I think about everyday activities such as shoveling the snow, or cutting the grass. I simply get it done, sit back and enjoy the rest of my day. This is how CrossFitters approach their workouts. They don't have to work out, yet they choose to, and when they look at the white board, they turn around, grab their equipment and do it. Once they are done, they stick around and cheer each other on because they know how important community and teamwork is.

So, as I was standing on the dock ready to start the swim, I looked around, took in the mountains of France and Switzerland, and decided to have fun throughout the race, because I deserved it. Each time someone wanted to pass me, I made it harder for them, and each time there was a challenge for me, I put my head down and attacked it, as I would have "Cindy," or "Helen," or a Hero workout. I finished the swim almost dead last, hopped out of the water and ran past 16 people, jumped on my bike and passed a few more, and throughout the run, I thought about my past. Once I ran underneath the banner, I was proud that I had put it all out there, and left nothing on the course. That's what CrossFitters do.

My time for the race (which was longer than a normal Olympic-distance event by an extra 2.4 k of running to accommodate all the bikes in transition) was 2:31. Although that didn't put me in the top 20, I proudly finished 98th out of 140 in my age group, accomplished my goal, and wore my nation's colors at an internationally sanctioned event in a sport that I had been involved in for three years. When I walked past the finish line, I

was strong, proud that I also effectively represented the CrossFit family, and, more importantly, my epilepsy community, from which very few athletes emerge.

Yes, I have epilepsy, and have to deal with it each day. I could long ago have given into the idea that I shouldn't work too hard because I might have another seizure, or that training for triathlons is dangerous for someone like me. But I feel that giving in to the skeptics would be giving up on life. Life is much too short to allow something or someone to keep us from achieving our dreams. At this point in my life, I have competed at the Provincial, National, and International level in three different sports. I have been a UN Peace Keeper, I have traveled to more than ten countries, and I am happily married; having overcome infertility complications we are expecting twins in the spring of 2009. These examples are only a few of the highlights in my life thus far. It is my goal to continue to achieve the things that I dream about each and every day.

The CrossFit community is full of people just like me, who have had to overcome a disability, or disease, or illness, as well as the line-up of people who get in the way. Just as we see from the CrossFit Journal articles featuring Kyle Maynard, who was born a congenital amputee and overcame his situation to compete at the State level in wrestling, I don't feel as though I have a disease or disability; I have a card that has been dealt to me, and I must play it. The CrossFit community is a place of like-minded people who have all played their own cards, and in doing so have been creating a stronger world, one person at a time.



### About The Author

*Karl MacPhee is the Strength and Conditioning Coach at Ross Sheppard High School in Edmonton, Alberta, Canada. He has been a CrossFitter for the past four years and will be attending the Level I Certification in Puyallup, WA, in January 2009. Since capping his success in the 2006 Worlds, Karl and his wife Jennifer both qualified for the 2007 Worlds in Hamburg, Germany, but decided to stop training for triathlon specifically, in order to enjoy more outdoor recreation. They have since climbed their first peak of 12,000 feet in the Rocky Mountains of Alberta and fell in love with the breathtaking views available from nature's playgrounds.*

## CrossFit in the Ashram

When an aid worker brought the WOD to an orphanage in India,  
new worlds opened—for her and her kids

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Rashmi Cole

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The chaos, the exotic scents, the wild monkeys roaming about, the occasional elephant, the laborers stooped in the fields, planting and harvesting, and far in the distance, poking through the mists, the Himalayas. Here, in one of the poorest, least-literate places in the world—the northern India state of Uttarakhand, where the nearby village, Shyampur, didn't get electricity until the year 2000—are the 16 acres of rural farmland upon which sits [Sri Ram Ashram](#)

Sri Ram Ashram is an orphanage for 65 destitute and orphaned children, a school for 550 children, and a charitable medical clinic. The ashram, which literally translates as “home” in Hindi, was founded in 1984, inspired by Baba Hari Dass, a Mauni Sadhu (“silent monk”) who has dedicated his life to the service of humanity. Now, every day at 6 a.m. in front of the ashram's main building, while most of the ashram children participate in a daily exercise and yoga class, a small group of older boys start to do something never before seen in this part of the world: CrossFit.

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I am a middle-aged American female from California. In the early 1990s I began spending ten months of the year in India to help run the ashram. Sri Ram Ashram is my passion and a wonderful project, but it hasn't been kind to my health. In 2005 I dabbled in CrossFit, having the good fortune to work briefly with Coach Glassman and his wife Lauren. In 2006, I took a year's sabbatical to concentrate on improving my health. CrossFit became the centerpiece of this effort.

When I first returned to India in August 2007, I valiantly tried to keep up my program. I purchased one of the two Concept 2 rowers available in Delhi, lugging it back to our ashram through torrential monsoons and landslides. I did okay, but cranking out the Workout of the Day (WOD) day-in and day-out can be a long and lonely process. Back in the US for the summer of '08, I voraciously visited CrossFit Santa Cruz Central, trying to pound myself into a routine that would carry me through another year in India.

When I returned to India, I was determined to figure out a way to keep up the WODs. One afternoon I discovered our older boys, age 16-18, buffing their biceps in our tiny gym and challenged them to join me in the WOD, a combination of running, thrusters, and shoulder presses. They smiled, accepted the challenge, smoked me, and were utterly exhausted. Shocked and intrigued (and motivated by getting out of regular PT and yoga, required of everyone beginning at kindergarten), four of them came back the next day for more. Since that day, we have followed the CrossFit protocol religiously.

The four boys who showed up for the first official day of CrossFit—Gautam, an athletic non-exerciser; Vijai Raj, the fitness freak; Arvind, an occasional weight lifter; and Uttam, a runner—were all shocked to discover that they could barely do a sit-up. When they saw me whip out sit-ups while they had to anchor their feet and flail their arms, they almost fell over. The same thing happened the first time we did the plank. It was a turning point when they realized their 50-year-old Didi (the name they call me) could out-exercise them. It's never happened again, but in that moment they realized the importance of overall fitness.

In the beginning we spent most of each morning on skills, which often felt disappointing to the boys. They couldn't understand why we weren't pumping iron and often I would catch them doing bicep curls after our workouts. At the end of one early skills session I told them we would close with a seven-minute workout. In Indian culture, younger people can't really say much to elders,







so in spite of being incredulous, they remained quietly amused. By the end of one minute of max pull-ups, five minutes of burpees, and one minute of pull-ups, they looked dazed. When I mentioned how long five minutes can feel, Vijai said, “**One** minute is a long time.” Who among us hasn’t felt the wrath of a CrossFit minute?

### Getting By on Less Equipment

The beauty of CrossFit is that so much can be done with little equipment. The boys and I have become very creative in recreating the WODs. We have been known to tear apart the furniture to find the perfect ab mat. One day the ashram looked on in amusement as we collected doormats so our dumbbells wouldn’t roll during man-makers. After much trial and error, the boys determined a woolen muffler works best for weighted pull-ups. For pushups, supermans, and sit-ups we hit the deck, whether it’s on grass, brick or cement. The low wall that surrounds the courtyard is perfect for box jumps, and, with adjustments, works for bench presses.

We have lots of room to run, and have carefully measured various distances. Our driveway is a convenient 109 meters; a loop around the building is just about 400 meters (sprinting past the funky septic, gas tanks, and trash area). We often have to negotiate who gets which

dumbbell, and I always pull rank for the one Abmat.

To navigate the one pull up bar we may start a WOD incrementally. We have one rower, which is located in the girl’s section, an area forbidden to boys—a sacred rule we have now broken. When we need individual timers, I round up the staff’s cell phones. Figuring out how to navigate our many obstacles has been fun and creative. It’s taught us to just do it.

The biggest problem has been with the bars, and with plates. Besides the daily chore of mixing and matching kilograms and pounds, the plates are small in diameter and the collars are often broken or don’t fit certain bars, making them time-consuming and dangerous. We use the bars cautiously as the plates can easily come flying off. On one bar we tie the plates on with rope or our trusty muffler. Stepping up the weight requires carefully choreographed, coordinated bar management. There are five to seven of us on any given day and sometimes we run three different workouts due to lack of equipment. It’s all great and it all works.

We are slowly building our gym. Recently, with a generous donation, we purchased our first two Olympic bars and bumper plates. They look huge compared to what we had been working with, and the boys are



thrilled; their testosterone levels skyrocketed when we unpacked them. I can guarantee we have the only set in the entire village. The collars that came with the bars are still pathetic, but a friend brought a set from America that fit perfectly. We also ordered “soft” medicine balls from Delhi and added a dip bar in the playground. We are discussing with a local welder how to make our own squat racks. On a recent trip to America I brought back three sets of rings and some quality jump ropes. Our exercise/TV/study room is a wild jumble of assorted equipment.

### A Social and Educational Spillover

While the physical benefits of CrossFit are tremendous, it's the unexpected “other” benefits that have been the biggest reward: improved relationships, camaraderie, confidence, fortitude, and resourcefulness. The boys now look people in the eye, and speak English with guests. They have learned to navigate the Internet in their search for WODs and technique. Their grades have improved and they are the center of awe and respect from their peers. They appreciate teamwork and understand the importance of keeping the workouts safe. In the beginning they scoffed at rest days; now they appreciate them. They no longer ask for bicep curls and they better understand the concept of all-around fitness and performance.

All the children now want to exercise, but I don't have the time or expertise to work with so many children of different ages and levels of fitness. The boys I exercise with are strong and athletic and I have always felt comfortable training with them. However, when Ravi showed up one morning I didn't have the heart to turn him away. Ravi is one of the few overweight children of the ashram. He has always been the odd boy out, the only one in his age group who isn't on the field hockey team, the one whom the other children tend to tease. Since he started exercising, his transformation has been remarkable. For the first time he joins the Frisbee games. He holds himself differently and has a sense of body awareness. His teachers marvel at his transformed behavior in school. Best of all, he now has a relationship with the older boys and respect from the younger children. He is thrilled and I can sense his pride.

### A Woman Leading Boys

I use an Indian first name when in India. Rashmi means “ray of sunlight.” While being a female ray of light leading boys in exercise has not been an issue within the confines of our ashram, it certainly helps to be a senior





staff member. In most other places in India there could be resistance, but we are a village unto itself, and the people here are used to having foreigners do crazy and unusual things. Our home is a global experiment. We hope to blend the best of several cultures; our main goal is to provide unconditional love to children who wouldn't have love otherwise. At this point people just shrug when we break social norms.

A few years ago, I tried working out in traditional Indian dress, but last year I finally switched to loose workout clothes. After receiving at least one comment from every child, they quickly got used to seeing my new attire. The staff had a harder time adapting. Some staff are day laborers, others live on the property. Some are literate, while others have never been to school. We employ both Muslims and Hindus. The local region is primarily rural farming; planting, protecting and harvesting the crop are the main sources of local exercise. It took the staff a while to understand what was happening with kids, CrossFit, and me. Each morning as the cowman walks past us carrying fresh milk, he absolutely gawks at what we choose to do. The gateman has run after us shooing away monkeys; staff members offer to carry my dumbbells during the "farmer's walks." Their duty is to serve me, a female and their "boss," not watch me suffer.

I have had to explain that I am, in fact, choosing to carry the weights.

The boys in the ashram have been very accepting of me leading them, partly because the culture demands respect for elders, and partly because they have grown to love CrossFit. It has been a huge boon for them, and they know it.

### **CrossFit is Here to Stay**

What started as a solitary quest for fitness has turned into so much more. We've had guests—most recently a fire fighter from Canada whose unit trains with CrossFit led the WOD—and we've had bonding. There have been many special moments and memorable CrossFit workouts.

After only a few weeks of exercising together, we celebrated my 50th birthday with a rousing rendition of Filthy Fifties. Even though we started extra early to finish in time for school at 7:30 a.m., it was incredibly hot and humid (we don't have air conditioning). The other children excitedly tracked our progress as they got ready for school. It was our first long exercise together, and it made us closer.

We followed that a couple of months later with our first

attempt at 'Fran.' At least 35 children cheered us on by screaming out the number of reps with all their hearts.

CrossFit has transformed my relationship with the boys, which hadn't always been smooth; there is now a solidarity between us that never existed before. They are wonderful exercise partners, gracious and eager. They keep me honest by showing up bright-eyed every morning. In the true spirit of CrossFit, well after they have lapped me, stretched and cooled down, they are waiting to cheer me on as I reach for the finish line. We have become closer in our three months of CrossFit than we have in the past ten years.

About two months into our CrossFit odyssey, we took a tour of the gyms in the nearby city of Haridwar. The boys had never seen a gym and I was curious about what equipment other gyms had. The first gym we visited was about 25 feet by 25 feet and specifically designed for heavy lifting and posing competitions. There was an older man, the guru of the gym, guiding about eight to ten men in various lifts. The gym was pure grit; no women, no shoes, all benches hand-made with notches axed into them to hold bars. After getting permission for a woman (me) to enter, the guru gave us a tour complete with demonstrations of various squats and lifts, and a brief posing session by the gym's star. When the boys had first started exercising they wanted that young poser's body. As we left, after two months of CrossFit under their belts, I heard them say, "Yeah, but can he do a 10-minute Helen?" That's when I realized CrossFit was here to stay.



### About The Author

Rashmi Cole a middle-aged American female from California, who in the early 1990s began spending ten months of the year in India to help run [Sri Ram Ashram](#), an orphanage, school, and medical clinic near the city of Haridwar. She started CrossFit in 2005, and had the good fortune to work briefly with Coach Glassman and his wife Lauren in Santa Cruz.





## The Best of CrossFit.com—Camacho Edition

Want to really understand CrossFit? Rewind to the pivotal year of 2003.

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Freddy Camacho

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I have always been fascinated with history. My “little secret spot” on the CrossFit website is the archives. As the programmer for the workouts posted on the One World site, I am constantly looking for new workout ideas. I was first advised to explore the archives by Tony Budding and Hollis Molloy. I quickly learned that sometimes, old can be new again! I am amazed at some of the workouts that were posted “back in the day.” There are some straight-up insane workouts in the archives. What really intrigues me is how much faster and stronger CrossFit athletes are now compared to then. Are the athletes really better or are we sacrificing too much proper technique for the sake of increased power output? I wonder how the monsters of the early years would finish in the 2009 CrossFit Games. As the system has evolved and become more efficient, the athletes have also evolved and are producing more power output.

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The archives start with the “Old Site,” first post 2/10/2001. From what I can tell, Lauren hasn’t missed a post since then. The site changed to the familiar interface we all know and love on 4/25/2003. 2003 in particular is one of my favorite years. Want to know who some of those people are in those pictures that pop up on the sidebar? A bunch of them are from 2003 posts. You can go to 2003 and see pictures throughout the year of the old Santa Cruz HQ box being outfitted then go to the Operation Phoenix video in 2008 and see it [dismantled](#) (tear jerker). I am also fascinated with 2003 because it was the year Coach started naming benchmark workouts. The girl workouts, the storm workouts, the bitches...whatever you want to call them, Coach made the girl workout concept official in September of 2003 on the blog and in the Journal.

### The Highlights of 2003



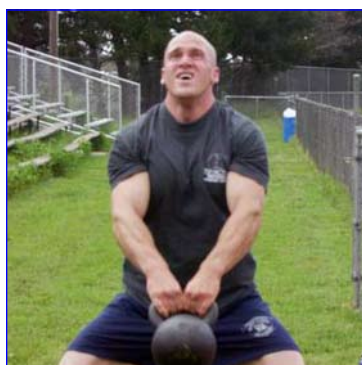
**April 28**

First Post! Congrats, Robb Wolf. All you other people who post “First Post!” on any other day should just give it a rest! By the end of 2003, the comments section was booming with up to 25 comments on a good day!



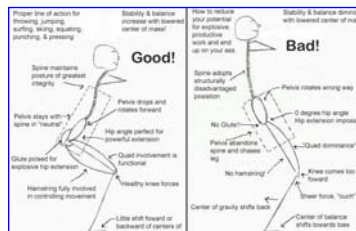
**July 11**

Greg Amundson’s amazing performance at the 2003 California Police and Fire Games profiled. Wow!



**June 22**

First “Helen” (wasn’t named just then). The time to beat was Greg Amundson’s 9:03. Interestingly enough, Coach posted to do the workout for time, rest, and then do it again without the clock. Yes, the times they have a changed.



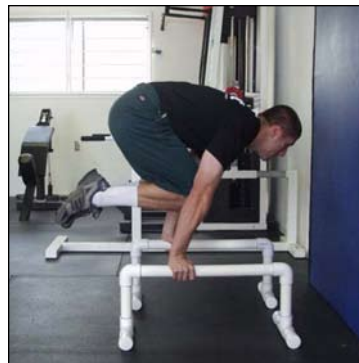
**August 06**

Coach posts a 21/15/9 thrusters (85-lb.) and pull-up workout. Greg Amundson comments that he did the workout with a 95-lb. thruster in 3:59.



### August 18

Seth Pringle does "Angie" (unnamed) in 14:19. Greg Amundson does it in 16:09. No one else was even close. How far have the athletes evolved? At One World we have three athletes with a sub-16 minute and one athlete with a sub-15 minute "Angie." (Unfortunately, none of them are me.)



### September 12

"Elizabeth" is posted, and yes, people commented with the same questions back they do now... "Is that a clean from the floor... a squat clean... a power clean?"



### August 25

Coach officially posts "Fran" with a 95-lb. thruster and offers a free t-shirt to anyone who can beat Greg's time of 3:59. I think there are a lot of us still waiting for our t-shirts to come in the mail. By November, Dave Leys did "Fran" in 3:03. In 2003 the words "What's your Fran time?" became part of CrossFit culture.



### September 07

"Chelsea" is posted and the September 2003 CrossFit Journal article entitled "**Benchmark Workouts**" regarding the first six official girl workouts is referenced. Also, there was a great picture depicting the standard for the overhead barbell position with a great explanation. All you people who want to argue what overhead is during Fran, check it out!



### September 17

CrossFit North hosts the first CrossFit Challenge. One workout in one day: Helen (still unnamed). Greg Amundson wins with an 8:36 time. Every second counted back then too! I really believe that the CrossFit Games would have killed people back then.



### September 19

"Diane" posted! The fastest time? 10:49. Just the other day I watched a video on YouTube of a guy performing a legitimate "Diane" in 3:59.





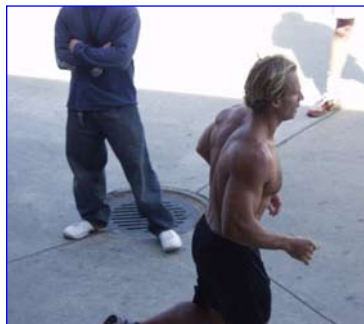
### September 27

"Barbara" makes her first official appearance. I wonder how many people puked that day?



### October 06

The first Certification group photo posted! WTF? No "pseudo gang signs" being flashed and everyone had their shirt on. From what I've heard, it was a three-day workout fest with a little bit of lecture. The Level I Certification Seminar has come a long way!



### October 13

First complaint in the comments section from some sick bastard complaining that we don't run enough long distances (10k run posted that day). I presume the comment came from a marathon runner.



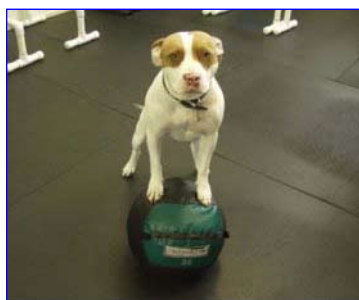
### November 05

After making several anonymous appearances throughout the year, "Helen" finally got posted with her name. Hundreds of thousands of future CrossFitters around the world probably got a momentary unexplained upset stomach at exactly the same time the workout was posted.

	ROW	SUMO	WALL	BOX	PUSH	
	HI-ROLL	SNAIL	JUMP	PRESS		
Paul	1:15	1:18	2:15	1:15	1:15	= 390
Mike	1:15	1:18	2:15	1:15	1:15	= 390*
John	1:15	1:18	2:15	1:15	1:15	= 390
Mark	1:15	1:18	2:15	1:15	1:15	= 390
Dave	1:15	1:18	2:15	1:15	1:15	= 390

### December 06

Mike Weaver is recognized for a 390 Fight Gone Bad in the same seminar that Greg Amundson hits a 7:56 "Helen." Patrick Barber recently hit 450 in FGB and I already mentioned that OPT crushed "Helen" at 6:59. A lot can happen in six years!



### December 11

An unnamed "Grace" appears. No questions about power clean or squat clean, so I am guessing everyone did full squat cleans and legitimate jerks.

Spend a little time in the archives. Besides the entertainment factor, there is a ton of useful and interesting information within the posts. In six years since 2003, CrossFit has exploded. We have seen jaw-dropping performances that six years ago would have been thought to not be humanly impossible. As we look forward to what the future brings, we should occasionally take a look at the road that got us where we are at now.



### About The Author

*Freddy Camacho is the head trainer of [Crossfit One World](#) and one of the owners of One World Self Defense and Fitness. He is a Level II certified Crossfit trainer, a Crossfit HQ head trainer, a Krav Maga Level II trainer, a SWAT operator, and a POST certified defensive tactics instructor.*



## He's 51—and Getting Younger

For one lifelong athlete, middle age meant accepting aches and pains and relentless deterioration. Then he discovered CrossFit.

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Paul Manfre

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Getting old sucks. I'm only 51, not ancient by any means, but I can see the future, and it ain't pretty. I'm fatter than I used to be, less buffed than I used to be, even shorter than I used to be—all this, despite an active lifestyle that gives me the appearance of someone years younger than my peers. For years I've gone to the gym. I've been a runner forever; a while ago, I began doing triathlons. But things start happening that are out of your control. I went from running 10 miles a day, to running 200 yards and feeling like I couldn't run anymore. At 30, I could run 10 miles without having run in months, but not now—my knee, my ankle, my this, my that, would hurt.

By 50, you start to accumulate aches and pains that won't go away. Getting out of bed every morning, I'd wince. I could not clasp my hand behind my neck. Fifty is a deceiving age; you can feel great for months, then slip getting out of your car, and your back goes out for three weeks. It's happened to me 3 or 4 times a year. At any moment, something could happen. At 50, for no apparent reason, you might wake up with a different ache and pain every day; your knee creaks, your wrist hurts, your shoulder hurts. I'd literally limp out of bed every morning. Sometimes, I'd even use it as an excuse not to work out. Aging is a bitch.

Aging is not fair, but no use crying—we all have to deal with it. If you have the brains to be a rocket scientist, at some point you begin forgetting things. If you have the physical ability to be a professional athlete, at some point you start to notice your reflexes are slower, your acceleration less instant. Over time we all degrade in our ability to do what we used to do so well. That is life.

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1 of 4





You're not, as they say, getting any younger.

That doesn't mean I accept it. I can't afford to. I'm a produce broker in New York City. At 2 a.m. or 4 a.m. or 5 p.m., I answer the phone—and I'm doing business all over the world. In Nogales, Arizona, people are loading watermelons, honeydews, squash, and red peppers from Mexico and California. In Florida, they're loading parsley, Dominican eggplant, and organic items that I send to different terminal markets all over the country. Different time zones, loading times, receiving times. I wake up instantly and pick up the phone. I'm always available to customers and suppliers. That's why I have to do my workout. If I don't, I won't have the energy to do my work.

I doubt many people could do—or would want to do—my schedule. My day usually starts at 1 a.m. and I am still answering phone calls in bed at 10 p.m. I usually only sleep four to five hours a night. Many days I have to pull over on the New Jersey Turnpike and take a 15-minute nap so I can make the 55-mile drive home from NYC to suburban New Jersey. But I love what I do. I eat it up. Work for me is fun. I want to do it forever.

There is only one other thing that I think I'd like as much: opening three or four CrossFit gyms—so I can work out there and spread the word.

I was dealing with the gradual pain and deterioration of aging. I accepted it. Then I hobbled into a CrossFit box last spring. Since I've been doing CrossFit my back hasn't gone out in 7 or 8 months.

I've been a runner, a biker, on the Atkins diet. CrossFit works better.

## Manfre's Dirty Dozen

### Rules To Live By for 50+ CrossFitters

**1. Don't give yourself a handicap for your age (or lobby for age groups at the CrossFit Games).** Life is not fair. Not everyone wins all of the time. Get used to it!

**2. Don't worry about doing the prescribed workout.** At the opening day of CrossFit Firebase in Orlando, Florida, I RX'ed Fran for the first and only time. That's because my shoulders are so bad. But no matter. If I can't do 135 pounds, I do 95 pounds, maybe even 45 pounds—and I still get a great workout.

**3. Work out with younger people and get your ego crushed.** Working out with younger people and watching them destroy you is highly motivating. I did a workout of double-unders and burpees with two young women. They were half my age, half my size, and did the workout in half my time.

You need to know the score. It keeps you very motivated every time you start believing that you are the king of the world.

**4. You are the competition.** Try to beat your last endeavor. Don't judge yourself against the elite of our sport; judge yourself on the basis of how you did last time compared to this time. Better yet, how do you feel now as opposed to last month or last year? That's why it's good to keep a log of your workouts, so you can jot your times and feelings down. I know I have not felt as good as I do now for many years.

**5. Don't make excuses. Just do something—and don't ever quit.** Don't use aches and pains as reasons not to work out. Don't use lack of equipment not to work out. Do air squats. Handstand push-ups. You can do bodyweight exercises until you drop.

And whatever workout you do—lighter weights, your own creation, whatever—finish it. Yes, CrossFit is VERY demanding and quitting a WOD early is a temptation almost every day. But don't do it. QUITTING IS FOR LOSERS!

**6. Get your kids involved.** I have one grown daughter, a son in college, and a seven-year-old girl. My 19-year-old son Chris is on the ASU cycling team. Last summer, after doing CrossFit and CrossFit Endurance for a while, I beat him on three 2-mile sprints. At first he acted like he hadn't felt well. I said, "You can say anything you want, but I beat you." Soon after that he started CrossFitting, lost 10-12 pounds, got a lot faster on the bike, and I can't beat him at anything anymore.

**From 5-foot-10, 175 at 20  
to 5-foot-9, 180 at 51**

First, a little history: about 25 years ago, I was in the Army's Special Forces. We did extensive training. That, without question, was the best shape I have ever been in my life. I was 5-foot-10, 175, big and ripped. Looking back, we did CrossFit, Army-style, back then. We ran, did push-ups, pull-ups, sit-ups, burpees, mountain climbing, all at a high rate of speed. If we did it slow, we did more. When I came out of SF training, I felt that there was nothing I couldn't do, physically and mentally—a belief I hold until this day.

When I was in my 20s, I became an avid runner. In 1977-78, while in school for computer programming, I picked up "The Complete Book of Running" and a pair of Nike Waffle Trainers. I'd run up and down a hill at school during lunch hours. For Christmas, I'd go out and run 1.2 miles in slushy snow in 12-13 minutes. By March, I was running 18 miles a day. I'd run 10 miles in the morning, 8 miles at night, every day. I could run 8 miles in 40 minutes. I could run a mile in five minutes. I am not a naturally fast person. But all the miles and that hill training gave me the five-minute mile. I'd take one day a week off, and do a 20-24 mile run the other day. I'd give my girlfriend the car and run home, like Forrest Gump.

So I was super-athletic. But by 38, I was 5-foot-10, 220 pounds.

In your 40's—kids, family, work—you don't realize it, but you're heading south. The de-conditioning, the strange unexplainable aches and pains, are starting to creep in. To fight it, to keep up my self-image, I hit the weights. I had previously worked out with weights for many years. When I was 45, I bench pressed 405 for two reps, but the day afterwards I could not move my wrists, a condition that lasted for several months. The next five years, every time I came close to a 300-pound bench press I hurt something. That is when I decided to try another endeavor, triathlon.

Earlier this year, while training for a race, I read an article about CrossFit being an excellent off-season workout for triathletes.

At 51 years old, with 195 pounds that I think is muscle, and in what I think is great shape except for a bad lower back and terrible shoulders, I walk into this CrossFit box. I'm this former warrior, with a never-quit attitude, ready to show this CrossFit trainer what I got. And I quickly find out that I GOT NOTHING!

A lot of our conversations are about CrossFit. He's become a student of it already. He's an avid reader, a literature major. When I need something explained, I ask him. He has become my coach. I just brought him a scale to weigh his food for the Zone.

I am waiting for an affiliate to open up near my oldest daughter's home so I can get her and her boyfriend involved, too.

**7. Do "Tabata Racing."** My youngest daughter and I race—that's right, my little girl and I do a Tabata together, she on her bike and me running. We race to the corner. It takes 20 seconds. Then we rest for ten seconds and do it again for a total of eight times. She does not know she is working out; she is just having fun with her Dad.

**8. Go to a Cert.** You'll go from not doing exercises correctly to perfect technique. I added 15-20 pounds to my deadlift overnight

**9. Work-out with other CrossFitters.** Being around CrossFit workouts will take seconds off your workout and pounds off your weight. There is no better motivational force anywhere!

**10. Go to a CrossFit gym.** At a CrossFit gym, you can work out your way without hassle. One example: you can drop the weights. That alone lets your scores get better. At regular gyms, people come up and say, "You're dangerous." My CrossFit gym is 35 minutes from my house. I only get there once or twice a week. But it's worth it. At a CrossFit gym, the weights feel lighter, your speed is faster, and your times are better.

**11. Work out and eat right as often as possible.** The days that I don't do my workouts are the days I feel the most tired. I have done workouts with broken fingers and I swear my hand felt better when I was done. I have done them when my back hurts and my shoulders always hurt, but I always do something. Even though you can make significant gains in health and appearance on less than the 3-on-1-off format, that's the best, the optimum. Without being a crazed diet fiend, staying away from processed food and making good food decisions will make your health and appearance skyrocket.

**12. Finally, be real.** If you are in your mid- to late-40s and above and you wake up and something does not hurt you, you are probably dead. Or not trying hard enough.

I can't go down more than halfway on the air squat. I can't do more than three pull-ups. Thank God I can still do push-ups.

Being crushed, I think, could cause many people to be embarrassed or intimidated or, worse, quit. But I sucked it up. I substituted scaled Workouts of the Day (WODs) for those I knew I could not do or would be terrible doing. I became a student again. For the next several weeks, as we went through foundations, I learned to do the movements more correctly.

And when I do, an amazing thing happens: I notice that I don't limp any more when I get out of bed. My shoulder still hurts all the time but I have a much improved range of motion. I can actually get my arms above my head, something that a short time ago was impossible. I'm doing the WOD scaled, but I suddenly do one as RX'd, and I get better and better.

Am I ready for the CrossFit games? NOT. You check your scores on the main site and you find that all the top males in this sport *crushed* your scores. And the real ego crusher is that *all the women* did, too.

I told you life was not fair.

But, hell, you start to realize that YOU are the competition—not the elite people you read about. You try to beat your last endeavor. Better yet, you ask yourself, "How do I feel now as opposed to last month or last year?"

I know personally I had not felt as good as I do now for many years.

Back in Special Forces in the late 70s, I was 175 pounds of iron. I thought bullets would bounce off me. Well, my body's not much different now. I thought I was in great shape four or five months ago at 195. Now, after doing CrossFit 4-5 times a week (usually not the prescribed workout), with a modified Zone diet (I cheat, but I eat better than most people—fresh foods, nothing processed), the love handles are a lot smaller. I feel great—leaner, faster, stronger than I've been in 25 years, and I do it in much less time than I used to spend in a gym.

I'm 180. Five pounds over my Special Forces weight—although I am only 5'9" now. (You older guys know what I am talking about; we shrink with age.)

I have tried many programs over the years. I consider myself a common-sense type of person. I don't get caught up in all the fads. I will try something if it makes sense, and if it works for me I insert it into my life.

Six years ago we moved into our new home. Back then, I was bench pressing around 400 pounds. In the last few months we moved again. I can tell you that objects I could not move six years ago are easily moved now, and I am obviously older. What is even more astounding now is that maybe I can now bench only 225. I have functional strength, not BS strength.

I hadn't been to Nogales, Arizona since last February. When I just went this month, they said to me, "Wow, you look younger. What the hell are you doing?"

And I thought to myself that it was more than that. I don't just look younger. I'm actually getting younger.



### About The Author

*Paul Manfre CrossFits at Guerrilla Fitness in Montclair, NJ. "I've always been an athlete, and always will be," he says. "I'm living past 100—and it's not going to be in a wheelchair. I don't just want to live; I want to live well! Take the E out of Ego and you know what you get? 3... 2... 1... GO."*





## Will CrossFit Make American Kids Smarter?

Studies already show that PE classes help academics.  
A new one finds that daily CrossFit Kids workouts significantly raised test scores

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Lisa Bakshi

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**Fact 1:** America is falling behind the rest of the world in the classroom. A 2003 study conducted by UNICEF ranked the U.S. 18th out of 24 nations in terms of the relative effectiveness of its educational system. Only 20 years ago, we ranked number one.

**Fact 2:** To remedy the situation, classroom time devoted to math and language arts—and to rigorous testing of these subjects—has increased, and the time spent on exercise and physical education has decreased dramatically. A study (Dollman, Boshoff & Dodd, 2006) found that daily PE exists nationwide at only 8% of elementary schools, 6.4% of middle schools and 5.8% of high schools. It found that some educational leaders see time spent on regular PE as “disadvantaging children in regard to ‘core’ academic areas,” and that Illinois is the only state that mandates PE every day for every student, although 25% of its school districts have been allowed to relax the PE requirement.

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1 of 4

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**Fact 3:** The U.S. is experiencing an unprecedented epidemic of childhood obesity, which has increased 35% in the past 10 years. Today's students now run the risk of becoming the first generation of Americans to have a shorter life expectancy than that of their parents, due to obesity-related heart disease and diabetes (Olshansky, Passaro, & Hershow, 2005). Carrying excess weight for years can lead to high cholesterol, high blood pressure, heart disease, stroke, and premature death. We are also now witnessing, for the first time, a substantial number of children with Type 2 diabetes, a condition that normally develops in adults.

**Question:** Is there a causal relationship between these three facts? Could it be that the alarming declines in student health AND academic performance are both due to the lack of physical education? And, on the flip side, could restoring physical education to schools help restore America's standing in the classroom?

**Answer:** Yes.

A number of studies have documented the link between children's activity level and academic performance. These studies support one another in suggesting that when a substantial amount of school time is dedicated to physical activity, academic performance meets, and may even exceed, that of students not receiving additional physical activity (Shepard, 1997).

The relatively recent field of neuroscience also provides researchers with a great deal of insight into the physiological impact that exercise has on the brain. Human and animal studies show areas involved in movement and learning are intimately connected, and physical activity could increase those neural connections (Jensen, 1998; Shepard, 1997). Learning complex movement sequences stimulates the prefrontal cortex used in learning. Animal studies indicate that exercising rats have more neural connections, nourished by more capillaries, than sedentary rats (Jensen, 1998). Furthermore, researchers are now certain that voluntary exercise can increase levels of brain-derived neurotrophic factor (BDNF), stimulate neurogenesis, increase resistance to brain insult, and improve learning and mental performance (Cotman & Berchtold, 2002). Additionally, physical activity might alter arousal through neurohormonal mechanisms, which could improve the child's attention in the classroom (Shepard, 1997). Despite the tremendous amount of research in this area, those in the fields of nutrition and fitness are continuously trying to convince policy makers that there is value in what they provide students.



### CrossFit as a Solution

As a second-grade teacher, as well as a 2 ½ year member of CrossFit SoCal, I firmly believe that those in the field of education have a social responsibility to encourage students to eat well and to exercise. Providing children with more opportunities to exercise will help them fight obesity, grow up to be healthy adults and, quite possibly, perform better academically. That is precisely why I made the decision to conduct my Master's research thesis on the impact that fitness might have on my class of twenty second-grade students. The purpose of my research was to determine whether or not an increase in cognitive function was observed in elementary-aged school children as a result of consistent rigorous physical activity. In preparing for my research I concluded that the critical component was, in addition to exposing my students to exercise, keeping their heart rates elevated for an extended period of time. One of the major problems with most PE programs as they are implemented in our schools today is that students are failing to achieve an elevated heart rate. For this reason, I decided to implement the fitness program known as CrossFit Kids.

Those familiar with CrossFit Kids know that it is a strength and conditioning program for young athletes and the primary PE program for many home schools and charter schools. It is used by athletic teams, martial arts schools and many parents that want their kids to grow up healthy, strong, and with a life-long love of working out, thus avoiding the common problems associated with childhood inactivity and obesity. The program delivers a fitness that is, by design, broad, general, and inclusive. By participating in this program, students were required to take part in different daily workouts that incorporated a variety of activities such as running,



push-ups, pull-ups, box jumps, thrusters, squats, and much more, all with the goal of maintaining an elevated heart rate for an extended period of time (ideally more than twenty minutes). The CrossFit Kids program ([www.crossfitkids.com](http://www.crossfitkids.com)) is designed for universal scalability, making it the perfect application for any child, regardless of experience.

The treatment group in this study consisted of twenty second-grade students from King Chavez Primary Academy (KCPA). KCPA is a three-year-old charter school in the Stockton/Barrio Logan area of San Diego. The composition of the treatment group was 13 boys and seven girls. 90% of the participants in the treatment group were English Language Learners. 5% of those same participants had an Individualized Education Plan (IEP), meaning they fell under the umbrella of special-education. 100% of the students were living below the poverty line. The variable in this research project was the implementation of the fitness program known as CrossFit Kids. Students participated in a variety of workouts for at least 30 minutes every day of the week, while other classes received 50 minutes of PE every six weeks.

### What did the results show?

Recently released California state standardized test results showed that 100% of the students in the treatment group scored “proficient” or “advanced” in mathematics. This was an achievement that, to date, had never been accomplished in mathematics at that school. This score was up 15% from the previous year, in which 85% scored “proficient” or “advanced” in mathematics. In English Language Arts, 36% of the students

scored “proficient” or “advanced”, a 12% rise from the previous year. This enormous increase in achievement in the core subjects was accomplished despite the fact that students were out of the classroom and away from direct instruction for 30 minutes a day in order to take part in the CrossFit Kids workout of the day. The previously cited argument that participation in daily fitness classes takes away from academic performance was simply not observed in this research project. The fact that the treatment group was able to out-perform every other group of students in the school in the area of mathematics may even provide indirect evidence of a causal relationship between exercise and cognition.

Additionally, at the end of the program, students were given attitude surveys regarding their experience in the program, as well as their feelings towards exercising at school. These surveys demonstrated a strong desire for the program to continue, and revealed how the students believed CrossFit Kids impacted not only their health, but their academics as well. In examining the results of the survey, I found that 65% of the participants reported that their favorite activity at school was physical education. 47% of the participants reported that the main reason they exercised was because it made them feel healthier, while 47% said it made them feel smarter. Not one participant indicated that they exercised simply because they were made to do so. 100% of the participants said they would like to continue CrossFit Kids the following year. 100% of the participants reported that they have changed the types of food they snack on as a result of participating in this project.

It is my strong belief that these participants have not only increased their awareness of their own health, but that their overall confidence in themselves in both fitness and academics has changed as well. I observed the participants’ desire to push themselves harder and harder each week, both physically and mentally. Participants who were initially timid with some of the exercises were later participating with both confidence and ease and were eager to demonstrate their progress. I witnessed a change in their social interactions as well. The participants had a sense of teamwork that was initiated in the fitness program but later extended into the academic setting of the classroom. They were supportive and encouraging of one another and this led to a decrease in the aggressive behavior that was observed at the start of the school year. Overall, the program had a tremendously positive effect on the entire classroom dynamic.



As an educator, I know that I have a responsibility to prepare my students for the 21<sup>st</sup> century in the areas of reading, writing, and math. But, when we as a society are faced with such a grave health epidemic in our nation's youth, I believe educational institutions have a responsibility to teach life-long lessons regarding health and wellness as well. I sincerely hope that my research and the research of others will inspire educators to take action on this critical issue.



### About The Author

*Lisa Bakshi has been teaching 2nd grade in San Diego after earning her Master's at San Diego State University. She began training at CrossFit SoCal about three years ago under the instruction of Krista and Ahmik Jones and implemented bits and pieces of CrossFit with her students immediately afterwards. She got her Level 1 CrossFit Certification during her second year of teaching and wrote a grant to buy enough equipment to run a full CrossFit Kids program, which is now in its third year. She recently began an after-school CrossFit Kids club for kids of all ages. Married last summer, she is currently expecting her first child and has continued CrossFitting through pregnancy.*

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## Movement 101

If you're going to build your body or others',  
knowing the terms and concepts of how it moves will speed the process.

Lon Kilgore, PhD

Anatomy is an intimidating topic to lots of people, but it is an important area of study relevant to many professions, including teachers of exercise. Previously, we examined how the recognition of body segment lengths that deviated from "normal" affected how a movement would look (Measure of a Man; CrossFit Journal, July '08 (71):35). It was our first step at developing an "eye" for coaching. In the next step, we will take a look at how we describe human movement in very specific spatial and directional terms and hopefully simplify them for easy use in teaching. After all, if you know something and cannot communicate it in a manner that the listener or reader comprehends, your teaching failed. (Man, I hope I don't mess this up after saying that.)

### "Anatomical Position:"

#### A Universal Reference Point for Any Body

Let's start with the basic reference position used in anatomy, "anatomical position" (Figure 1). Anatomical position—flat on the back with the palms of the hands facing up, like a dead body lying on the dissecting slab—is an artificial construct intended to help anatomists describe the positions the human body's various features. Test out this position yourself by flopping flat on the floor, relaxing completely, and seeing what your hands do. The palms will usually face upwards.

Interestingly, anatomical position is not exactly representative of the normal living body while standing up. Standing in a relaxed position, your arms will hang with palms facing the hip or slightly to the rear. Interesting eh? While this is not too important, having one defined

reference position as a reference point for everyone is sort of like magnetic north on your compass. A compass allows people from all around the world to be dropped into unfamiliar terrain and find their way to a specific destination. Not surprisingly, magnetic north is useful as is anatomical position when we need to describe precise anatomical locations and directional movements.



**Figure 1**  
*Anatomical position compared to relaxed standing posture.*

### Describing relative location: Is the Foot *Distal* to the Hip?

Orienting yourself to the body is important whether it is on a dissecting table, standing up, or in a convoluted exercise position. You have to know where the parts are relative to other parts, the earth, and to any implement used during the exercise. Anatomists have a nice set of uniformly understood terms describing just that. These will be necessary for the exercise professional to learn. They are arranged in opposing functional pairs as follows:



Figure 2

Anterior or front view of upper body (left) and posterior or back view of upper body (right).

#### Front/ Back

**Anterior:** A structure that lies in front of another structure (Figure 2). The toes, for example, are anterior to the heels.

**Posterior:** A structure located behind another structure (Figure 2). Example: The erector spinae, the long muscle group running vertically along the back, is posterior to the abdominal cavity.

#### Near/ Far

**Proximal:** Usually associated with the extremities but relevant to all structures, *proximal* describes a structure as being closer to the center of the body or to the beginning of the extremity than another structure (Figure 3). Example: The knee is *proximal* to the foot.

**Distal:** The opposite of proximal, *distal* is a structure farther from center or from the beginning of the extremity than another structure (Figure 3). Example: The hand is distal to the elbow.

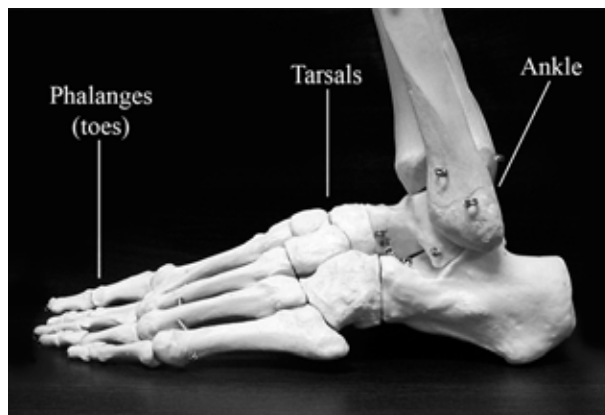


Figure 3

The tarsals are proximal to the ankle joint. The phalanges (toes) are distal to the ankle joint.



Figure 4

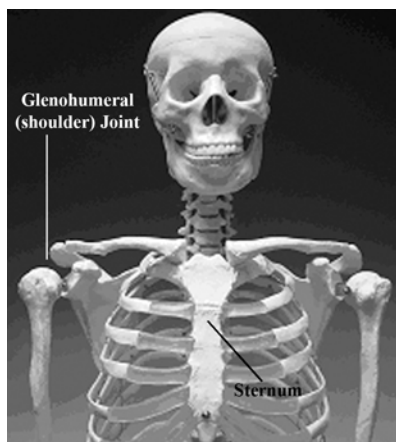
A superior structure is above another. In the image to the left, the skull is superior to the pelvis, or we could say that the pelvis is inferior to the skull (below the skull). We can move and change this orientation during exercise. In the image to the right the pelvis is superior to the skull.

#### Top/ Bottom

**Superior:** A structure that is higher than another structure (Figure 4). Example: The head is superior to the pelvis for example.

**Inferior:** A structure that is lower than another (Figure 4). Example: The chin is inferior to the nose.





**Figure 5**

*The sternum is medial, or in the middle of the body. The shoulder joints are lateral, or on the outside.*

#### **Middle/ Side or Inner /Outer**

**Medial:** A structure that is closer to the cardinal sagittal plane (center) than another structure (Figure 5). Example: The sternum (breastbone) is medial to both shoulders. Example 2: The spinal column is medial to the ribs.

**Lateral:** A structure that lies farther away from the cardinal sagittal plane than another structure (Figure

5). Example: The shoulders are lateral to the sternum.

#### **The 3 Cardinal Planes: Sagittal, Frontal, and Transverse**

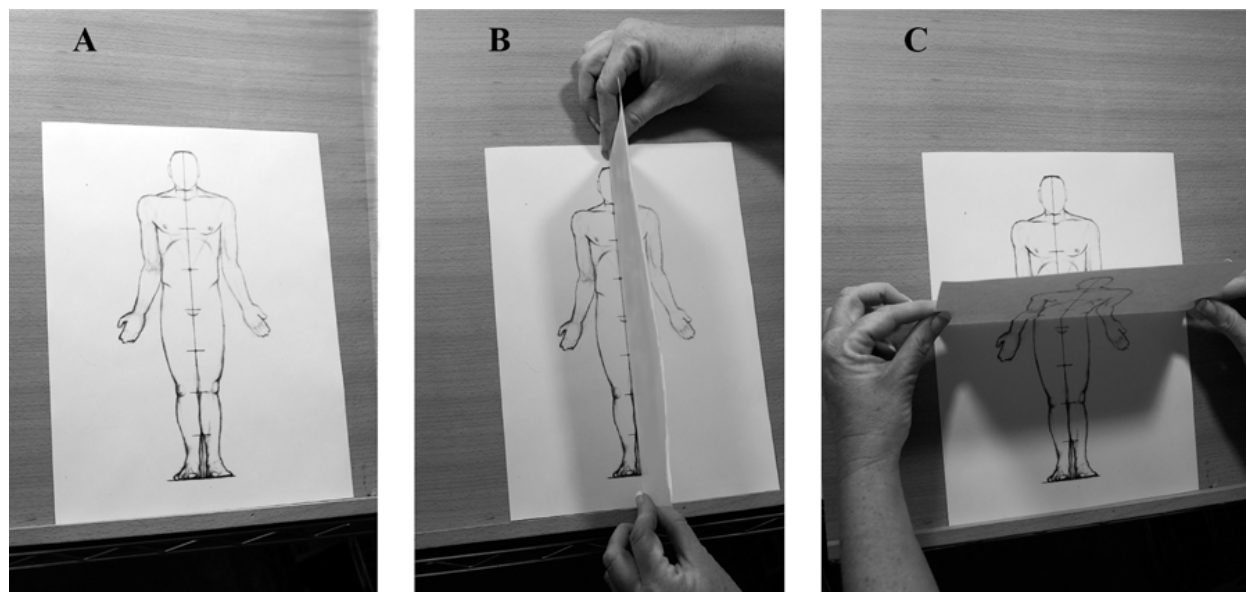
Now that we have a starting point, we can take a few more steps toward describing human movement. Anatomists use the convention of anatomical planes to describe the locations of body parts on various sections the body. Most anatomy texts may only passingly refer to anatomical planes because they expect the reader to be familiar with the “cardinal” (important) planes, *sagittal*, *frontal*, and *transverse* (figure 6).

**The Sagittal Plane** divides the body into right-hand and left-hand sides as it passes front (toe side) to back (heel side).

**The Frontal Plane** divides the body into front and back halves as it passes side to side (shoulder to shoulder).

**The Transverse Plane** divides the body into top and bottom (at the waist) as it passes perpendicular to the long axis of the body (the intersection of the Sagittal and Frontal planes).

These three cardinal planes intersect at the body’s theoretical center of gravity or center of mass. This intersection was first reported by Christian Wilhelm Braune in the late 1800’s, when “plane” terminology was first used to describe the cuts made in a dissection. Planes



**Figure 6**

*The cardinal planes. (A) Frontal, (B) Sagittal, and (C) Transverse. For A, imagine the drawn body is three dimensional with the plane passing through it sideways.*

are also useful because they allow us to describe the orientation of a feature relative to a plane (i.e. the face and the toes are in the front half of the frontal plane). You might even compare the concept of using anatomical planes in describing the position of a body part to using latitudes and longitudes in describing the location of a geographic feature on the earth.

Anatomical planes have been hijacked by the exercise sciences. Every text on kinesiology or biomechanics has a section that lists the "Planes of Motion," or simply the three anatomical planes. The only difference is that those texts say things like, "the arm moved along the frontal plane." We'll see later that we have some handy dandy anatomical terms that obviate the need for saying things like that.

We also see in exercise texts references to "Axes of Movement." And if you remember your high school geometry, an axis is an imaginary line around which something rotates. The Earth rotates on the Polar axis, an imaginary line between the north and south poles.

Every plane of movement has an axis. To visualize the axis of a plane and the rotation around it, put a flat piece of paper on the table in front of you. Let's say the paper represents the frontal plane. Now draw a large stick figure human on it in anatomical position (make sure you put a smiley face on it). When looking at the paper now, you are examining the representation of the human (the stick figure) in a frontal perspective.

Now carefully fold that paper in half, the crease running left to right near the waist of the stick figure, just above where the legs begin. The crease represents an axis of rotation, in this case the rotation of the upper and lower body at the hip. If the top half of the paper is folded down, the upper body has rotated around a transverse axis. If you fold the paper with the crease from top to bottom you have created a frontal axis. If you place your pen point on your stick figure's belly button and spin the paper, it is rotating around a sagittal axis.

OK. That was fun. Let's move on to something a bit more useful. Really, when have you or any coach or trainer you know used these terms? It is good information needed to understand anatomy but not necessarily useful in communicating information to clients or athletes.

### The Movement Test: Is Abduction In or Out?

If these "planar" descriptions are elemental to the study of anatomy but not so practical for describing movement, how do you describe movement?

There exists a standard set of directional terms that specifically deals with both locating anatomical features and describing their movements. Many of the terms are actually familiar. Having used the terms "flex" and "extend," you are already part-way to a simple understanding of how to describe movement.

### Bend/ Straighten

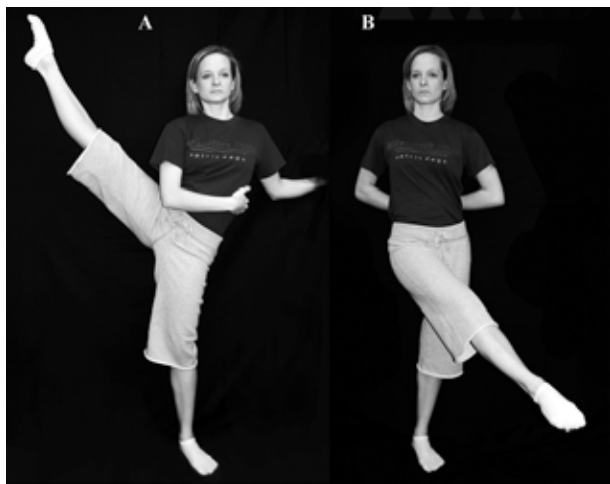
**Flexion** occurs in the sagittal plane, anterior-posterior (figure 7a). In a flexing movement, the angle formed by the joint decreases. For example, the hamstrings will flex the knee joint from 180° at full extension to around 60° at full flexion (the number gets smaller). Contracting biceps do the same thing for the elbow joint. In the gym we frequently refer to flexion as "closing" the joint. Think of it like closing a book. As the book closes, the two covers go from 180° to 0°. Note: it is the joint "flexing" here, not the muscles. Muscles "contract" to flex or extend joints.

**Extension**, the opposite of flexion, also occurs within the sagittal plane, also anterior-posterior (figure 7b). The angle formed by the joint increases throughout the movement (the number of degrees gets bigger). This is a very common coaching term in the gym and in sport. An analogy here is the opening of a book, increasing the angle between the two covers from 0° to 180°. The hip angle opens as you rise from sitting to standing for example.



**Figure 7**

*Flexion (a) and extension (b) of the knee joint. It should be apparent from the photograph illustrating flexion that muscular involvement is not a pre-requisite of flexion (nor extension). Muscles do not flex, joints do.*



**Figure 8**  
(A) Abduction (B) Adduction

These are pretty extreme examples of abduction and adduction of which most trainees are not capable. Some people would call this hyperabduction and hyperadduction as it is extreme. BUT “hyper” specifically refers to movement beyond the individual joint’s range of motion capacity. Hyperextension, hyperabduction, hyperflexion, hyperadduction, hyper-anything is potentially injurious. Years of ballet training have made extreme abduction and adduction a normal and non-stressful movement for our model here.

#### Move Away/ Return

**Abduction**, which occurs within the frontal plane, is a movement that takes or pushes a body part away from the mid-line of the body (figure 8a). A simple concept to remember: to abduct is to take away (i.e., a kidnapper abducted four school kids).

**Adduction**, like abduction, occurs within the frontal plane, but unlike abduction is a movement of a body part towards the mid-line of the body (figure 8b).



**Figure 9**

In the sequence above, the radius (thumb side of the hand) is rotated over the ulna. Another way to say this is to say that the hand at the far left is **supinated** and the hand to the far right is **pronated**.

#### Spin/ Fling

**Rotation**, as its name implies, is a rotational or pivoting motion around the long axis of the body (where the sagittal and frontal planes meet) or any body segment (figure 9).

**Circumduction**, which can occur within any plane, is where the joint acts as a pivot point and the distal segment then moves in a circle around the joint (figure 10). Example: The arc traced by the toes when you open and close your ankle joint. In general, circumduction is a combination of flexion, abduction, extension, and adduction ordered into a defined sequence. It can only occur at any joint that is capable of movement in two or more planes.

#### For Best Understanding, Use All the Terms—and Common Sense.

All of these terms—*flex/extend*, *abduct/adduct*, *rotate*, and to a lesser extent *circumduct*—can be used to teach a client or athlete correct form. There are lots of other specific terms like *invert*, *evert*, *depress*, *elevate*, *supinate*, *pronate*, and more that have specific meaning



**Figure 10**  
Circumduction at the shoulder is part of softball pitch technique.



within specific anatomical segments (Table 1) but the basic few described here will suffice for most exercise teaching purposes.

In fact, you will probably have to come up with 15 different ways to tell a trainee to flex, extend, abduct, adduct, or rotate a joint or body part without using the correct anatomical term. Instead of saying “*abduct your femurs*” during a squat, say “*push your knees out*” and the trainee will get the idea better. Instead of telling the trainee to “*internally rotate the humerus*” in the set-up for a clean, say “*point your elbows out,*” and they will engage the latissimus dorsi correctly for proper force application.

In this application of anatomy there are two tasks to be accomplished:

1. An understanding of the anatomical nature of the movement, what is actually occurring, and where it is occurring in order to detect segmental deviations from a reference standard (the prototypical example of good technique), and

2. An ability to convey anatomical feedback to your trainee in a vocabulary that is understandable to them. The former point is science applied to exercise; the latter is at its core part of the art of coaching. Failure to accomplish either makes for a less successful coach or trainer.



### About The Author

*Lon Kilgore, Ph.D., is a professor of kinesiology at Midwestern State University where he teaches sport and fitness physiology and applied anatomy. He has authored or co-authored several professional exercise textbooks, numerous research articles on the biology of exercise, and many articles that interpret exercise science for the average coach and trainee. His students have become university faculty, high school and university sport coaches, private fitness practitioners, physicians, physical therapists, wellness directors, and US national team coaches in weightlifting and cycling. He has been a member or Chair of the Sports Science Committee for USA Weightlifting for more than a decade, a researcher on the USOC Weightlifting Performance Enhancement Team project, and a member of the Board of Certification for the American Society of Exercise Physiologists.*

**Table 1**  
*Basic anatomical terms and their descriptions.*

Movement	Body Parts Affected	Description
Flexion	Any applicable joint	Bending movement where the joint angle decreases
Extension	Any applicable joint	Straightening movement where the joint angle increases
Abduction	Any applicable joint	Movement of a segment away from midline
Adduction	Any applicable joint	Movement of a segment towards midline
Rotation	Any applicable joint	Circular motion around an axis
Elevation	Any applicable joint	Movement upwards
Depression	Any applicable joint	Movement downwards
Internal rotation	Some appendicular skeletal joints	Rotation of the part anteriorly
External rotation	Some appendicular skeletal joints	Rotation of the part posteriorly
Circumduction	Ball and socket joints	Flexion extension abduction and rotation around the joint
Pronation	Elbow and wrist joints	Rotation of the hand to a palms down orientation
Supination	Elbow and wrist joints	Rotation of the hand to a palms up orientation
Dorsiflexion	Ankle	Lifting the toes and ball of the foot up
Plantarflexion	Ankle	Pushing the toes and ball of the foot down
Eversion	Ankle	Rolling the ankle with the sole of the foot facing out
Inversion	Ankle	Rolling the ankle with the sole of the foot facing the midline
Opposition	Thumb	Moving the thumb and fingers together
Reposition	Thumb	Moving the thumb away from the fingers
Protrusion	Jaw	Moving the jaw forward (towards underbite)
Retrusion	Jaw	Moving the jaw backward (towards overbite)
Protraction	Shoulder	Movement of the shoulders forward (abduction)
Retraction	Shoulder	Movement of the shoulders backward (adduction)