

Starting Strength

Don't Overlook the Middle

by Bill Starr

In the last two articles I did for [Starting Strength](#), I went over the necessity of having a strong start and finish on every exercise that you do. Now I'm going to do the same thing for the other segment of any movement — the middle. The question often arises: which phase of a lift is the most important? There is no pat answer. In some cases it's a poor start that adversely affects the outcome of a lift. In others, it's the finish. And in yet others, it's a weakness or inability to acknowledge the middle portion of the movement that causes the problems.

While all lifts are made up of three parts: start, middle, and finish, different exercises give priority to one, or perhaps two, of these more so than all three. For example, when you get a powerful start to a power clean, the middle takes care of itself if you're paying attention at all, and the difficulty arises at the top. Same thing applies to a bench press, but not so on a back squat. The start is weak and this carries over to the middle portion of the lift. So any aware lifter will recognize that he needs to spend more time and effort strengthening those muscles responsible for the start of the squat.

The midrange of an exercise is often taken for granted. When only lighter weights are being used as is the case in many fitness programs, this doesn't pose much of a problem since the athlete isn't going after any demanding poundages. However, for those who are seeking a higher level of strength, the middle matters a great deal.

Rather ironically, most of the weak middles that I have dealt with have come about because the athletes have exceptionally strong starts. Which, in the total scheme of things, is a positive. Yet it can camouflage a shortcoming in the middle phase of an exercise. These show up mostly on back squats and pressing movements such as flat bench, incline bench, and overhead presses.

Here's how it plays out. The athlete knows how to utilize his hips to provide a powerful thrust out of the deep bottom position of the squat. Many football players, in particular, come to the weight room with a great deal of muscle in their hips and legs. As they learn the proper form on the squat and add strength to their lower backs, that initial punch from the hole gets even stronger. So strong, in fact, they can blast the weight from the bottom right up through the middle range where they can shift their attention to the finish.

Which is great because the gains come rapidly. That is, until he starts handling weights that are so heavy he can no longer explode them through the middle range. What happens? He fails with those poundages simply because the groups that grind the bar through the sticking point are lagging behind those utilized in the start. Some have been able to gut it out and bring the bar through that sticking point, but then they have nothing left for the finish. Many falsely assume that they're weak at the finish and spend time making that part of the lift stronger. It seldom dawns on them that the middle is not getting enough direct work. The middle is sort of the stepchild of strength training.

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Then there are those who do not have disproportionate strength in their middle backs. They're actually quite strong and not the reason why the lift is missed. What causes the failure is the athlete doesn't know how to involve the muscles and attachments of his back at the correct time during the execution of a lift. What most athletes do is concentrate on a strong start, then they immediately shift their focus to the finish. Again, with light weights, this works out just fine, but when the numbers climbs to the PR range, this two keys approach isn't successful. When you're going after a max attempt on any lift, you must make sure you include all three segments of a movement: start, middle, and finish in order to make that lift.

Although a weak middle is fairly hard to spot on the squat, it's very easy to see on the flat and incline bench as well as the overhead press. Of all the lifts in weight training, I see more evidence of a weak middle range in the bench press than any other. This is because so many athletes, in their quest for a higher flat bench, resort to rebounding the bar off their chests and bridging when the bar sticks in the middle. They use these methods of cheating from the onset of training and for a while, they're rewarded. Their bench numbers keep climbing so they continue to play havoc with their shoulders, elbows, wrists, and chests so they can say they're benching 250 or 300.

But it's a dead end street. Eventually, the sloppy technique will start to take its toll on the offended joints and sooner or later, even with a huge rebound off the chest and a bridge that resembles a head stand, the weight cannot be locked out. What these lifters have to do, and I've only met a handful who were able to swallow their egos and do it, is to go back and start from scratch. They must learn to bench press flawlessly and this may mean taking as much as a hundred pounds off the bar. Learn to pause the bar on your chest for a long one-second count and keep your hips planted on the bench throughout the movement. Few believe me when I tell them if they will clean up their form on the bench and continue to use it, they will eventually exceed what they were handling while rebounding and bridging. Yet I know it can be done because I've seen it happen many times.

The most dramatic was my experience with John Phillip. I met John at the weight room of Church College of Hawaii, in Laie, about a month after I had moved to Oahu. I had heard of him from almost the first day I stepped on the island. He was a legend and was considered, rightly so, the most physical being in all of Hawaii. The weight room was small, but had all I needed, I was the only white person training there. I had got special permission from the Athletic Director to train just as long as I was willing to help the other students with their lifting. I didn't see John for quite some time because he was coaching the rugby team. He was the best rugby player on the island, and all-American, and ten times Hawaiian wrestling champion. In high school, on Tonga, he ran a ten second hundred yard dash.

One afternoon, this specimen came into the weight room. He had an afro and weighed 280, with most of it in his upper body. Everyone greeted him warmly and deferred to him when he wanted to use the bench. Which, as it turned out, was the only station he ever used. Which was the norm for this group, I was the only person who squatted or did any pulling. The bench was a Sears model, shaky with uprights that could be moved in and out to accommodate variations of shoulder width. He started benching with 225 and proceeded to add 45-lb. plates after each set: 315, 405, 495. Naturally, he was the center of attention and I admit, he had all of mine. He finished off with 515 and how that rickety bench kept from collapsing is still a mystery to me. But it held up. John got up, said his goodbyes and left.

I had not been introduced. Truth be told, it was as if I were invisible. They were all students at the college but were really there to perform at the Polynesian Cultural Center which was attached to

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the college. There were native Hawaiians, Samoans, Fijians, Tahitians, Maoris and Tongans and they only spoke their languages. They were always polite towards me but none were even remotely friendly. I understood and didn't mind, I was a guest and went about my training without being bothered with conversation.

For the next three weeks, John showed up and did his bench presses then departed. By this time I was starting to handle some decent numbers on my squats, power cleans, deadlifts, and flat benches. One afternoon, I was doing a back-off set of squats and when I put the bar back on the rack, John extended his hand and introduced himself. He had been talking to the A.D. and had learned a few things about my background — that I had coached the Baltimore Colts and had competed in Olympic lifting and powerlifting. He wanted to enter a powerlifting meet and asked me to coach him. He had never squatted or deadlifted, but I knew he was in a class all by himself when it came to benching. I agreed with one stipulation. He had to learn to do a legal bench press. I explained the rules about rebounding the bar off his chest, which he did in excess, and also that his hips had to remain on the bench from start to finish.

Without any hesitation, he said he would follow my instructions to the letter. I had my doubts. Not that he couldn't do the competitive lifts, but that he could deal with his pride and start using a lot less on his pet exercise. We started in that day. I demonstrated a legal bench press and had him pause the bar on his chest for a long two-second count on every rep. I would give him the signal to press with a clap. He ended up with 405 done in perfect style, a hundred and twenty pounds less than he was currently handling in that lift. Amazingly, it didn't bother him or if it did he never showed it. Since he didn't have any bad habits in the deadlift and squat, he picked up the technique on those lifts instantly.

Three months later, he competed in a meet in Honolulu and finished with a 555 bench, ten pounds more than he was doing with the sloppy form in the gym. And eighteen months after he learned the power lifts he won the silver medal at the World Championships in Birmingham, England, in 1975. The point of the story being, John kept his ego in check and as a result became one of the strongest men in the world. If he would have lacked self-confidence, this never would have



Above: A silver paperweight that was handed out with the trophy won by John Phillip in 1975.

Left: John Phillip (lifter) and Bill Starr (spotter) at an outdoor meet in Honolulu.

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happened. He had to back way down in order to strengthen his weak area, the middle, and when he did that he was over the hump in terms of getting considerably stronger.

A weak middle can also happen with overhead presses when the athlete gives a little knee-kick to set the bar in motion off his shoulders. Of course, this is okay if his intent is to push press the weight, but should he be trying to improve his military pressing prowess, it will eventually get him into trouble, because a military press must be done with knees locked. So when he tries to press a heavy weight correctly, it will hit the wall in the middle since those groups have been neglected with the knee-kicks.

Pulling movements need a strong middle due to the fact that the motions are much longer than in shoulder and leg exercises, especially power cleans, power snatches, full cleans and snatches. When the middle isn't as strong as the start off the floor, that relative weakness displays itself very readily. Or in many instances it isn't a weakness at all, but rather a lack of understanding how to incorporate the middle into the pull at the right time. But one thing is certain, if a max attempt comes to a halt on the way up in any of the explosive lifts I mentioned, you're dead meat. There's no possible way for you to restart it with enough force and speed to make that lift.

This often comes about because the lifter is only thinking of a strong start and a snappy finish. The athlete's notion is: "If I get a great start, the bar will zip through the middle range and then all I have to do is lean into the finish?" Good idea on paper; not so good in reality. Then there are those who are well aware that there are three segments to a successful pull, but do not make the transition from one to the other quickly enough. When I watch someone do a power clean, for instance, and I can identify the three separate phases of the movement clearly as there is a noticeable pause between the start, second pull, and another at the finish, I know that athlete needs to make some adjustments in his or her pulling technique.

There are two courses of action to take to develop a stronger middle on squats, all forms of pressing, and any pulling exercise. One is to make the muscles and attachments which do the actual work of moving the bar through the middle range stronger. The second is to learn how to blend the start with the finish more successfully. I'll get to methods to improve strength later on, but first I want to go over the latter problem, involving the middle more on any exercise.

The first step in the process is quite simple – just recognize that the middle plays a critical role in any primary exercise. And naturally, is also a part of all auxiliary movements but to a much lesser degree since lighter weights are used. At the same time, do not consider the middle range of a lift as a separate entity, but rather as a very rapid extension of the start. The trick is to learn how to blend the two in a smooth, fast manner.

To help athletes learn how to do this for any pressing exercise, I use the incline press. In fact, I use this lift to teach them the concept for the squat and pulls as well for several reasons. The incline is a controlled movement with the athlete firmly locked into the incline bench with the bar moving upward right in front of his eyes. This lets him get visual feedback right away. The lifter can see if the bar is stalling at the mid-point of the lift and learns how to remedy it right away. It's also the purest of the pressing exercises. If an athlete tries to rebound the bar off his chest in the incline, it will run forward and if it runs too far out of the correct line, that lift will be lost. Should he attempt to bridge when the bar sticks in the middle, he finds that maneuver next to impossible to accomplish. I have seen it done, but rarely and they didn't do it for long because their lower backs took the brunt of the cheating move.

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The upward and downward stroke on the incline is in a straight line and the bar travels very close to your face, almost touching your chin. This means the bar is only inches from your eyes for the start and middle so it's easy to see if it hesitates in the transition phase. Another reason why I like this lift as a teaching tool to learn how to blend the start with the middle is that balance isn't a factor. The lifter is braced firmly on the bench.

Always have someone assist you in taking the bar off the racks and putting them back when the set is finished. This can be a risky exercise, I know of one case where a football player decided he didn't need a spotter, got the weight off the uprights alright, but when he finished, he blindly flipped the weight back to those same uprights. They hit just right, but unfortunately for him, bounced off them and came down on his face.

On a signal, have someone help you remove the weight from the rack and then hold it for a second or two to make sure you have in under control. In a deliberate fashion, lower the bar to your chest so that it touches right where your collarbones meet with your breastbone. This is much higher than where the bar touches your chest on a flat bench and may take a bit of practice before you feel comfortable with this placement. Pause the bar on your chest for a long one-second count, then drive the bar upward with a powerful start.

Every beginner I ever coached would always drive the bar off his or her chest and then wait just a nanosecond before following through to the middle portion of the lift. It's as if they're waiting to find out if they gave a strong enough start to try to finish the lift and that's where the problems come in.

What you want to do is to blend the two movements into one fluid motion. As soon as you drive the bar upward, squeeze back into the bench and put more power into the bar. There is no gap between the start and the middle; it's now just one powerful thrust and the bar will climb right through the sticking point. Now all you have to do is to continue applying pressure to the bar and it will float to the finish. Once you have learned how to make the fast transition from the start to the middle, you can easily do the the final phase of the lift.

Once you have mastered this technique on the incline bench, you can apply it on the flat bench and overhead press. But to do this, you must pause the bar on your chest or shoulders. Then you can concentrate on that quick follow through after the start.

For pulling movements, I use clean grip high-pulls to teach athletes how to make the transition from start to the middle and also from the middle to the top pull. High pulls work well in this regard because the lifter doesn't have to be concerned about locking the weight out overhead or racking it across his shoulders. All he has to do is pull the bar just as high as he possibly can. Yes the form flaws show up more so on high pulls than most of the other pulling exercises simply because more weight can be handled on the high pulls. While I'm not a fan of athletes lifting in front of a mirror, I believe it's beneficial when trying to remedy a hitch in the pulling motion.

There should not be the slightest hesitation with the bar once it leaves the floor. As I've written countless times, the bar should resemble a whip – slow off the floor, picking up speed through the middle, and no more than a blur at the top. Strap on to the bar and use moderate weights until you're satisfied that you're pulling correctly. By observing yourself in the mirror, you will be able to spot any break in the flow of the bar upward instantly. As with the incline bench, blend the start right into the middle and continue to pull hard so that the middle moves smoothly into the final pull. This may not happen right away, but practice will pay off eventually.

As I mentioned earlier, the reason why some athletes have difficulty with the middle portion of an exercise is that the muscles and corresponding attachments utilized in moving a heavy weight

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through that range are lagging behind those responsible for the start and finish. Here are some ideas for improving strength in the middle range.

The first step is to find out if those groups are, indeed, relatively weak. This can be determined in a power rack. Begin at the point where the bar breaks off the floor. Load a bar up with about 100 pounds less than your best deadlift. Place pins at mid-thigh and pull the bar up to those top pins for five reps. Next, move the bar onto those top pins and using the same weight as you handled with the first move off the floor, pull the bar through to lockout for five reps. You're be able to tell right away if your middle is lagging behind your start. If it is, use that second position as your strengthening exercise until it's as strong as your initial move off the floor.

I don't even bother checking for any pressing movements because I'm willing to bet that the middle range is weaker than the start. So get in the rack and with the bar set on pins at the mid-point of the flat bench, incline, or overhead press, move the bar off those pins and press to lockout. Even if the middle portion of the pressing movements aren't that much weaker than the start, this exercise will still greatly improve your pressing power.

Same deal for the squats. Place the pins in the rack right at the midpoint of the squat, then get under the bar and squat it five times. Make sure you come to a complete stop on every rep, otherwise, the exercise will not bring the desired results.

After doing these mid-range movements for a few months, you'll get more out of the isotonic-isometric holds. They, of course, can be done sooner than this, but the strength gained while doing the lifts from the middle will help you to handle a great deal more on the isometric contractions.

The positioning of the bar for the various lifts will be the same as you used when you started in the middle only this time the bar will only move an inch or so, depending on how far apart the holes in the rack are spaced. I'll use the clean grip pull as my example but the action is identical for any pressing exercise and for front or back squats.

One set of pins at mid-thigh with a second set locked in at the next highest hole in the rack uprights. Since this is very concentrated work, it takes some practice to learn to do it correctly. So it's best to do several sets in the beginning to help you get the feel of what you're trying to accomplish. Start with a moderate weight, such as 225. Strap onto the bar, make sure your body mechanics are perfect, then ease the bar off the bottom pins and tap it against the top pins for two reps. On the third rep hold the bar strongly up against the top pins for a short three count.

Load the bar to 275 or 315, depending on your level of pulling strength. Repeat what you did on the first set. For your final, work set, put enough weight on the bar so that you have to fully exert yourself, but not so much that you can't hold the bar up against the top pins for the required count. There are two ways to do the work set. One, follow the same pattern as you used for the first two sets, tap, short hold, tap, short hold, then lock the bar against the top pins for a long count of no less than eight and no more than twelve. Two, just do a single rep and hold it for an eight to twelve count. Either is effective just so long as you give your absolute maximum effort with that final hold.

Keep in mind that the time element is far more important than how much weight is on the bar for isotonic-isometric contractions. It might take some time before you figure out the right amount of weight to use for that work set. The rule is: if you can't hold it tightly against the top pins for at least eight seconds, it's too much weight. And if you know you can hold it longer than twelve seconds, you need to increase the amount of weight on the bar. One work set at any position is sufficient.

Isos can be used for just about any exercise in the book, so with a bit of imagination, you can improve the middle position of all of the exercises in your program.

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Finally, dumbbells are excellent tools to help strengthen the middle. They're useful because the first move off the shoulders for any pressing movement has to be done deliberately and this forces the middle range muscles to come into play sooner and with more intensity than when using a bar. Plus the dumbbells have to be controlled much more than a bar when moving overhead and this builds a different kind of strength. They're also useful in learning how to pull through the middle in a fluid motion. One hand snatches and two hand power cleans are excellent because they force the lifter to apply power to the weights from start to finish and to make them move like a whip. I've yet to find a way to use dumbbells to improve squats, but I'm still looking.

Be more aware of the middle range on all the primary exercise you do. Determine if they need more direct work and if they do, insert one or more of the recommended exercises into your routine until the disparity is rectified. In the event you find that they are of equal strength with the low and top ranges of your core exercises, concentrate more on utilizing the middle and making it an extension of the start. Take care of the middle and the finish will be more dynamic, resulting in even greater strength gains.

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