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The Split Jerk: Start to Finish

Chad Vaughn breaks down the "simplest" of the three Olympic lifts.

By Chad Vaughn **December 2012**

All images: Staff/CrossFit Journal

In comparison to the snatch and clean, the jerk is theoretically the simplest of the three lifts.

For the jerk, as in the snatch and clean, certain parts of the body have to move out of the way of the bar so it can travel up straight. In other words, these parts have to move around the bar. In the jerk, of course, the head is the only obstacle. Also, the distance from the shoulders to overhead is much shorter than that from the ground to the shoulders or the ground to overhead.

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Both arguments support the theory that the jerk is simpler, but the movement gives many lifters the most trouble—myself included. In my 15-year career, it has only been over the last couple of years that I've finally been able to rewire my body to move optimally to perform this lift. Here's what I've learned in my pursuit of the "perfect jerk."

Vaughn performs a jerk in which the elbows are high and the bar is in contact with the shoulders and fingertips. The technique requires an aggressive "punch" to wrap the hands around the bar at lockout.

The Optimal Set-Up

There are many reasons why the jerk dishes out difficulty, but let's start with the biggest: in practicing the Olympic movements and all the assistance exercises that go with them, one is continually exerting power onto a barbell with aggressive hip extension—not a forward thrust. Following extension, there is an immediate closing of the hips as the butt violently shoots back, at least slightly, to receive the bar (even though our goal is to stay as upright as possible in the catch positions with the hips dropping more straight down than back). Think about a snatch, clean, or power or push jerk and how your body is moving to receive the bar.

In the split jerk, however, you want the hips and shoulders to stay in alignment throughout the entire lift: in the dip, the drive, the full extension, the splitting of the feet/push under the bar, the catch, and even the recovery. It's almost inevitable that you'll be doing far less split-jerk reps than a combination of these other movements in which the hips and shoulders are leaving alignment, at least slightly. Muscle memory is tough, but you must learn to differentiate to master the split jerk.

To begin, start standing with the bar across your shoulders. If this position is off even slightly, you will experience multiplied difficulty during the lift. The most commonly overlooked components are stance, hand width, grip and elbow position. Keep in mind that we need all of these to be accommodating of the tightest and straightest dip and drive possible.

I've covered much of the stance in my *CrossFit Journal* article Oly Optimization. In summary, at least in the beginning, I recommend using the same stance for the snatch, clean and jerk. Even most elites will use a consistent stance, though many will set the feet in a slightly different way for various reasons.

> The most important concept when thinking about hand width, grip and elbows is how the bar sits in the rack position, as this creates the base that is key to shoulder-hip alignment.

(As a note, if a lifter differentiates between stances, the feet are usually a little wider in the snatch and jerk compared to the clean for flexibility and overall positioning purposes. Both the snatch and jerk tend to require more of both, and maintaining the positions is more difficult in these lifts.)

For beginners, I will set them in a general "power stance" that will work for the snatch, clean, jerk, push press, etc. Initially, the stance is at least hip to shoulder width apart, optimally with the toes slightly turned out. This is a stance of flexibility and is usually a little wider than people think is necessary. But think in terms of why you front squat with a wider stance. The width should help accommodate an upright torso, and the slight turnout of the toes creates a more natural flaring of the knees during the dip. Overall, width leaves more room for the hips to drop straight down for that all-important shoulder and hip alignment. Furthermore, don't be afraid to experiment with the amount of turnout as a little more can make all the difference for someone struggling to hold the torso tight and upright.

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The most important concept when thinking about hand width, grip and elbows is how the bar sits in the rack position, as this creates the base that is key to shoulder-hip alignment. Ideally, match the hands in the jerk to where they are in the clean, or vice versa. Most elites will keep it simple and conserve energy by leaving their hands right where they are after the clean as they prepare for and complete the jerk. It takes a lot of time and energy to re-position the hands at this transition point. A few here and there will bounce their hands out, sometimes excessively and, in my opinion, unnecessarily. The wide grip is necessary for the snatch, but for the heavier loads of the jerk, the shoulders will be increasingly stable and the arms stronger as you move in. Of course, the wider the grip, the shorter distance to lockout overhead, which is usually why a few lifters use an excessively wide grip for the jerk. Pressouts, however, are very common with this technique.

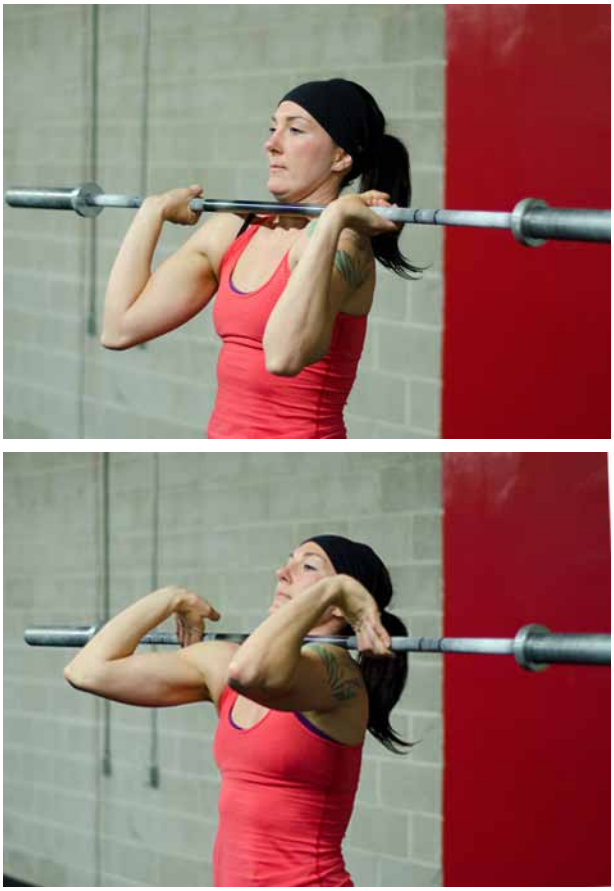
Setting the hands too narrow is a far more common flaw. I typically see beginners trying to jerk (and clean for that matter) with their hands touching their shoulders or at least part of their hands between the bar and their body. The hands need to be outside the shoulders at least, and I recommend placing them around 1 to 2 inches (sometimes up to 3 inches) outside the shoulders. I've seen some coaches use a general set-up of a thumb's length outside the barbell knurling, and I've adopted this as it seems to be right on for most. In the extreme example of a small female, her hands might be placed right where the knurling starts, and the outside of a large male's hands might be on the outer ring of a standard Olympic bar.

Basically, going too narrow or too wide will reduce flexibility and performance, and experimentation is recommended as lifters progress. It has been my experience that the general concepts usually work the best.

For the grip and elbow position, there are usually two different viewpoints:

1. Bar in hand or with fingers wrapped around the bar, with the elbows down and slightly forward (an optimal pressing position).
2. A loose fingertip grip on the bar with elbows as high as possible to the point where you'll have to exert upward pressure on the end of the elbow through the entire lift (this should remind you of your front-squat rack position).

Depending on the individual, the "pressing position" (the first viewpoint) can feature relaxed elbows forced upwards or downwards according to comfort. This pressing position is the style that is taught by many coaches, and for good reason: it is the stronger pressing position. In fact, many of the best lifters in the world use this method, though they happen to be larger lifters. In my opinion, this style should generally be reserved for those larger athletes because they have more area for the bar to rest in the rack position and a more natural base underneath the bar no matter where their elbows are.



Coach Mike Burgener teaches a low-elbows position for the jerk (top), while Vaughn recommends high elbows in the set-up. Athletes should experiment to find which technique is optimal for their body type.

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Vaughn says many women, as well as smaller lifters, will benefit from setting the elbows high with the bar in the fingertips only. Lifters with large upper bodies can often find more success with the elbows much lower.

The fingertip or high-elbow position is my personal preference. I initially teach it to everyone, and it is the technique I recommend to most as they continue. This set-up can feel a little wild with the bar out of the hands and is very hard to trust in the beginning. How do you press up on the bar out of just the fingertips? You don't. Keep in mind that the press is quite different than the jerk, as the legs should be working for as long as possible in the jerk before the arms come in to press the body down rather than the bar up. We can absolutely guide and press the body under with the fingertips to the position to where the hands will wrap to complete the final "punch."

It's very common to see lifters, especially beginners, bring the arms in too soon, taking away from the power of the hip/legs. This also affects the quality of position overhead, as pushing on the bar out of turn will inevitably send it forward or the body will be pushed back away from the bar. With the hands around the bar and the elbows more underneath and ready to press, an early push is tempting, comforting and at least subconsciously thought to be necessary. How about reducing the urge by taking away the pressing position?

Many will be better off immediately with lower elbows and hands wrapped if the elbows are going to drop or hands wrap anyway during the dip or drive, but the timing of the hips and legs starting the exertion and the arms following through at the right time still has to be learned. I believe forcing the hands and arms out of the equation as much as possible is a much better teaching tool than just saying, "Don't push on the bar too soon."

In addition, a loose or forward dip and drive is common, especially with beginners. I mentioned before how the fingertip/high-elbow technique should remind you of your front-squat rack position, which helps you stay as tight and upright as possible during the lift. The principle is the same here: the upward pressure on the end of elbow throughout the entire jerk, specifically during the dip and drive, gives insurance against losing hip-shoulder alignment, a forward dip and drive, and a rounding in the back or shoulders. For me, the use of this style is less about the coordination of the proper core-to-extremity timing, as I have that down. It's more about the bigger base or shelf that is created for the bar to rest on so I can throw against it. As a lighter lifter, I need all the help I can get.

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This base is absolutely significant to the jerk. The bigger lifters naturally have it, but with small to medium lifters, take note of the difference in how the bar sits in the rack position with the elbows down and the hands wrapped compared to the front-squat set-up: it goes from mostly just on the clavicles to a position where the load is distributed throughout the shoulders.

A lot of times the body will leave you no choice anyway. With smaller lifters, and smaller females especially, a low-elbows or pressing set-up with heavier loads causes the bar to sink more and more down into the shoulders, and the elbows must go up more and more. These athletes are usually still trying to force the elbows down because that's where the coach told them to set their elbows.

A jerk is complete when the bar is locked out overhead under control and the feet are brought together on the same line.

In the pressing position, you risk the chest and shoulders being soft or dropping, a loss of tension, the whole body coming forward, a loss of hip-shoulder alignment, and putting pressure on the bar with the arms too soon or pushing it forward or the body back. Having the elbows relaxed is much better but still does not give insurance of back tension, alignment and timing. With the elbows forced up but with the hands still wrapped, you have the most insurance of those basic concepts but still a greater chance of losing of optimal timing.

> As for the dip, I cannot remember ever working with anyone whose dip I have not reduced in depth.

From the pressing position, understand that the bar travels more straight, but straight up is often not good enough. The bar needs to go back over the top of you a little more from where it sits in your front rack position, and it will have to be placed there. Try a press with the loose grip, high elbows and continual upward elbow pressure. I'm not saying that this is a stronger position for the press, but as long as the head is moved out of the way sufficiently, the bar will travel at a slight backward angle and will land right over the top of you where it needs to be. The bar is guided in this way as the arms push the body underneath in the jerk. Though this technique may not produce your biggest press, weightlifting and power exertion are more about positioning and timing, and I believe the technique will end up being optimal for most when doing a push press, power jerk or split jerk (hopefully you're already doing this with your thrusters).

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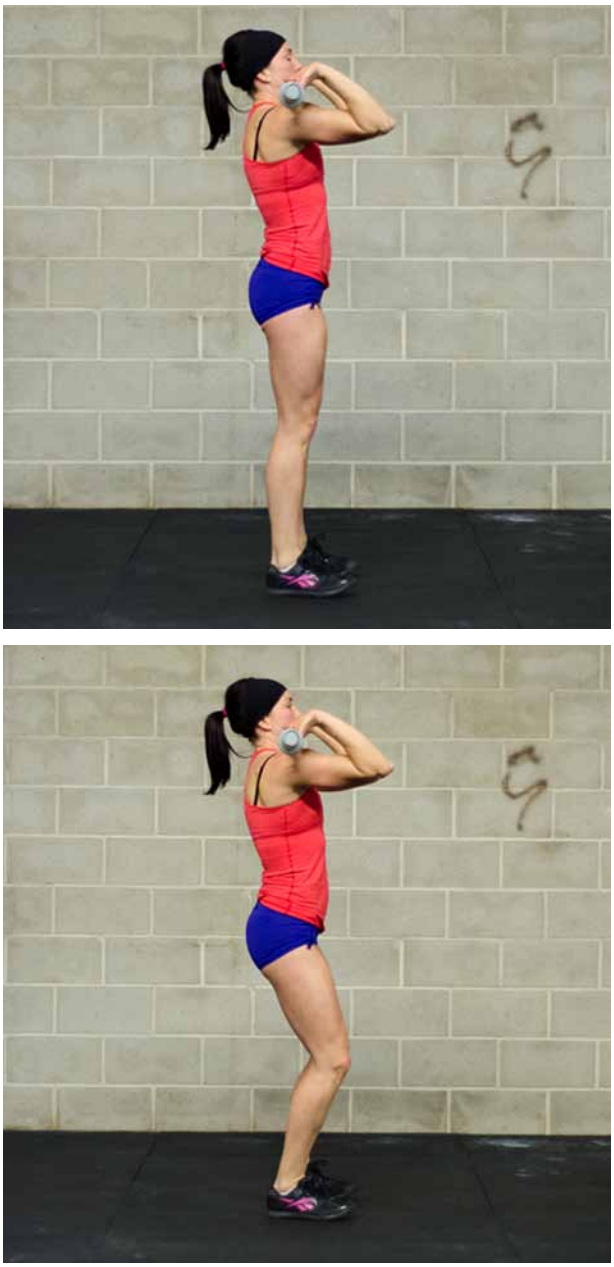
Alignment: The Secret to the Dip

Shoulder-hip alignment is key throughout the movement.

In the dip, pay attention to speed and depth. Any movement to a transition point can be controlled or, for lack of a better word, slow. The beginner will especially benefit from control during the learning process. Just as the specific body orientation with the bar above the knee is critical in the snatch or clean, so is shoulder-hip alignment at the lowest point of the dip—these are your transition points. Think of it this way: the slower you go, the more likely you are to create and maintain the best positions, alignment, tightness, contact with the bar on the shoulders, etc. On the other hand, the faster you go, the more likely you are to lose quality in some way. The lift is not made with speed from the initial set-up to the transition point. Position, tightness and quality are far more important within this range of motion and at the transition point.

As for the dip, I cannot remember ever working with anyone whose dip I have not reduced in depth. A bigger dip does not mean more power or more time to build speed. In fact, the deeper you go, the more it turns into a squat, where the shoulders and hips will come out of alignment at least slightly. This will tug the body forward and slow the lift as there is wasted energy fighting the bar to bring the body back to straight—which is often very challenging with maximal loads. Also, especially with maximal loads, the longer you have to stand to reach full extension, the more likely you are not to get there and the more likely you will be decelerating by the time you get to full extension. We need as much acceleration on the barbell as possible, and we can accomplish this with a shorter range of motion. For this short dip to feel right, it will take time and reps, and for it to be right, everything before and after it must be right. Many struggle with the concept, but once they find it the bar moves faster and higher and catches them off guard.



When the dip and drive are performed correctly, the torso should stay perfectly upright.

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As in a squat, the knees should be flaring in the dip. This creates more room for the hips to sit straighter. With the knees forward or coming in, the hips will have to go back sooner and will be more likely to do so. In addition, the straight-forward knee bend and inward knee bend limit flexibility, and the heels are more likely to come off the floor in the dip, with tension lost in the back . The outward knee pressure keeps the body better activated in all the right places—in the legs and glutes specifically. The knees will of course need to remain out upon change of direction (this is a common place for them to come in) and up to full extension.

The lowest point of your dip is where we have to start worrying about getting the head out of the way, as this is where its journey around the bar begins. We need the head to go back sufficiently and aggressively and then come back underneath the bar. Most athletes move the head very little or not at all, and usually tentatively. Many attempt to move it in a way that will just not allow sufficient space for the desired bar path. This type of head movement is characterized as more of a chin tuck. With the extreme example of the head and eyes straight forward, the head is moving straight back and then back through. The line of sight does not change, and if you watch the chin, it does not move up or down but only back.

Vaughn demonstrates his recommended head position, which allows the bar to travel in the optimal path.

Move your head back as far as you can. It's a great stretch, and in fact this is a good rehab exercise, but notice the increasing tension the further you go back. In addition, if the bar is moving the way we want it to, the shoulders and upper body will have to follow the head and move back to create more space or one will still likely hit the chin or nose every rep. This body movement is unnecessary to me. If the bar goes forward and around the face, it stays there for a miss, the body goes forward to get underneath, or the bar is muscled back in—all suboptimal options.

What if we can just move the head and move it better and more easily, with the rest of the body staying in line? The only way this can happen is if the chin is fully lifted, meaning at the extreme the eyes would be looking straight up. I have run into a few who have expressed concern that this is too much like the movement that causes whiplash, but I honestly feel this concern is a little extreme. It's like the health-care professional or coach who tells clients not to squat past parallel because it's hard on the knees. Is the body not capable of these ranges of motion? Are we supposed to lock the body up and hesitate on any movement where we could potentially go further? What if we actually use these ranges of motion and they get stronger and stronger? Would we not be better prepared to stave off potential injury? The thing is, we are not getting into a car crash; we're lifting weights.

I am extremely confident that the aggressive execution of this head movement will allow one to lift the most weight overhead. It is wild, though, and will take some time to get used to, but it should be aggressive. Anything less is controlled, which means "held back." If you get your set-up and technique in line, you can use focus and control to time your aggression to reach your true potential.

Full extension and the head coming back aggressively usually go hand in hand. If the head movement is lacking or hesitant, extension is usually slow or cut short. Most athletes I come across only rise about halfway out of the dip. This means the head won't make it back fully, the arms will come in too soon and have to muscle the bar up, the bar will go forward and have to be muscled back too much, and power will be lost. The extension that we need is ankles fully extended, hips completely open, and chin up.

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Stomping the Split

I remember always being told that your strongest leg should go back in the split to help with stabilization, but the more I coach, the more I find that there is really no rhyme or reason for which foot should go back. One way to determine is to tell someone, without telling them why, to go down into a lunge. The foot they put forward is likely the foot they will be most comfortable throwing forward in the jerk. As I have ruined that for you, someone can unexpectedly give you a small push from behind, and you can ask yourself which foot you used to catch yourself. As this will potentially lead to a bloody nose, the best route is simply experimentation. Feel each leg out with a lunge and a few jerks with the bar. Which feels more natural and stable?

From here, the good split I'm looking for is a little more stretched front and back than most are comfortable getting into: the front shin is vertical or slightly angled back, the back heel is elevated (up on the toes), there is a slight bend in the back knee, the feet from side to side are at least as wide as they were in the power stance, and the hips must be directly under the shoulders and the bar that is overhead. This is the position that will allow the weight to be centered and evenly distributed throughout the body.

With the front shin angled forward, the alignment lost, or the back leg straight or not bent enough, the bar will be forward in some way or the body will be pushed back away from the bar. This creates more fight than necessary, and many lifts with heavier weights will be lost.

As for the placement of the feet forward and back, we don't have to guess. It can usually be hit right on the head by standing up out of a specific lunge. First, the knee of the back leg needs to be directly under the hip and the shoulder so all three are in perfect alignment (see below). Next, you'll need to make sure that the back ankle is flexed to get as much of the toes as possible in contact with the floor. The front shin is vertical. Also, pay attention to how wide the feet are side to side, as it's easy for them to be too close when attempting this method. We need them to be at least as wide as your power stance so as to create good stability side to side when you stand. This width will be even more necessary with heavier weight.

As a note, if you ever find your front and back foot turning in when you split, this is not bad and is sometimes necessary, as this is the body's way of widening a little from the power stance to create a bigger base for bigger weight. In the beginning, we are aiming for straight forward and straight back with the feet, and we don't want either foot to turn out, but know that the feet turning in is not wrong.

Vaughn recommends this method of finding the ideal split stance for the jerk. Note that the hips are stacked directly under the shoulders in both frames.

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As stated earlier, we want that back leg to be bent at least slightly to allow for hip-shoulder alignment (if it's straight, the hips will likely be pushed back), mobility and sinking a little if needed in that strongest position as you adjust under the load (think shock absorbers). Coming out of the deep lunge with the knee on the floor, you are going to stand about 12 inches depending on the individual—but no more than will allow you to maintain at least that slight bend in the back knee and a good bend in the front leg with the front shin angling only slightly back. If the front of the kneecap goes behind the heel at all, you've gone too far.

> Upon floor contact with the feet and lockout with the arms, the movement should look and feel like sticking the landing in gymnastics.

Upon floor contact with the feet and lockout with the arms, the movement should look and feel a little like a "stick," as in sticking the landing in gymnastics. It's like the difference between a power and full snatch, clean or jerk (power vs. squat). With the power movements, you put on the brakes and the body and bar are immediately stopped at a certain height (that's the goal anyway), but in the full-squat receiving position, the weight is cushioned on its way down. In this aspect, the split jerk is more like a "power movement". Keep in mind that with maximal loads, the power movements are far less stable than the full movements as that immediate braking effect is jarring and leaves much less room for error.

The split itself provides the stabilization of the jerk without having to go deep, which is why some choose the split version of the snatch and clean—though there is far less potential with those lifts compared to the full versions. In the jerk, most will find more success with the split technique.

In the split, the deeper you go, the less stable you'll be, so though we want to step our feet far enough apart for success, we don't want to move them too far apart to bring the back knee close to the floor. As for the jarring that is associated with putting on the brakes, in the split jerk (or even the power jerk), it is actually pretty smooth—and definitely more so than in a heavy power snatch or clean. In those movements you have a pull and a turnover to lockout, but in the jerk you have a much easier transition with only a push under the bar to lockout.

Vaughn jerks 172 kg at the CrossFit-USAW Open in Colorado Springs in 2010.

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After you've completed the perfect split and the weight is locked out overhead, how do you stand to complete the lift? Most athletes recover with the back foot stepping most or all the way to the front foot or running up underneath the bar. This would be typical of athletes whose set-up is off or whose dip-drive is out of alignment or forward, so they really have no choice. Ideally, though, we want the front foot to move back first underneath the hips/shoulders, and then the back foot should meet in the middle. This is important because it presumes the most control and is proof that everything leading to that point was most likely done correctly.

Also, remember the concept of not only the hips and shoulders staying in line but also that the line stays in the same plane throughout the entire movement to avoid creating any excess forward or backward movement of the body or bar. Also, I find that even just the subconscious knowledge of preparing to move the front foot back first in recovery tends to create better movements and positions.

Cues: Points of Focus

There are many cues that will allow one to get to the desired ending position: bar overhead with feet together and in line with hips and shoulders. Some cues will be individual, but there are a few that will apply to everyone.

Blocks can help you get in the reps you need to put together the perfect jerk.

In either case, I always recommend you "simplify" your focus. This means focusing on two or three things at the most. You will fill your head with these things only and give everything you have to their execution. Understand that most or all else will fall into place automatically.

If anything is not happening the way it is supposed to, focus and emphasis points might need to change. You can see how this is a process and a give-and-take game until desirable movement patterns can be established.

Also, focusing on something like the correct recovery or landing on the back toes might be a necessary third focal point, but this is not ideal as anything that happens after power exertion should be an automatic reaction. Trying to control reactions will take away from what you can focus on before that point. Lifting is just like life: focus more on what you can control and things have a better chance of going as desired.

So, before simplifying your focus, let's review the major concepts:

- Set up in the front-squat rack position with upward pressure on the end of the elbows.
- Head neutral and feet in a stance of flexibility.
- Dip slow, straight and short.
- Aggressive change of direction and exaggerated head movement back while maintaining upward elbow pressure.
- Hips and ankles open completely as chin is lifted to its highest point.
- As the bar begins to float, it stays in the fingertips as it is guided back slightly and the hips start to drop straight down and the feet split.
- The bar and head will quickly pass each other, at which point the hands will wrap and push the body the rest of the way under for a lockout that will occur immediately after the feet return to the floor.
- The bar is now directly over the shoulders and the hips with the head poking through to the point where the ears are just in front of the arms.
- The front foot moves back first to the point where the back foot will step up and meet in the middle to complete the lift.

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Now let's simplify this a little, but keep in mind that you'll need some assistance exercise and drill work to help prepare the body for simplification of the process.

I believe one needs to get to where he or she can give every bit of focus and effort to accomplishing two things: a short dip and an aggressive/exaggerated head movement. The "short" dip can be changed to "slow" depending on the individual, but either cue will help accomplish the straight/tight dip. The exaggerated head movement will help to reach full extension, improve bar placement and encourage an aggressive, solid catch.

Third additions to the focus could include, as a few examples, forced upward elbow pressure or feeling the bar in the fingertips for as long as possible if the elbows are dropping and pushing up on the bar too soon. Also, if the hips continue to shoot back out of alignment in the dip, a feeling of either leaning back with the shoulders or pushing the hips forward can lead you in the right direction.

One cue on the "reaction" side would be if the front shin is angling forward in the split. How about a focus on creating a backward angle of the front shin in the catch?

There are many more, but if the body is doing something undesired, try to offset it by exaggerating movement in the complete opposite direction. Notice that most of these cues mentioned for the third focal point would be incorrect if they were actually implemented exactly as instructed; 99 percent of the time, these cues of overcompensation are the only thing that allow us to trick the body to "meet in the middle" or find the correct position. If after a time the exaggeration starts to happen, then just take that emphasis away.

The split jerk is deceivingly tricky and complex, but with time, effort and a focus on efficient positions and powerful movements, it can become the simplest of the lifts. This is exciting because the jerk allows you to throw some ridiculously heavy weights overhead.

Be sure to get your front-rack and overhead mobility worked out while pushing through some assistance/drill work along with some actual split-jerk repetitions. If you do, watch the PRs start to fly overhead.

Key Assistance Drills

1. Jerk dips—Go through the small range of motion of dipping down and then standing back up to open hips without extending up onto the toes. The whole movement is slow and you are specifically reinforcing the slow, straight, short dip with continual upward elbow pressure.
2. Push presses—Toe extension
3. Power jerks
4. Split-jerk foot positioning via baby steps
5. Behind-the-neck jerks

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About the Author

Chad Vaughn is a two-time Olympian, a seven-time national champion and an American Record holder in the sport of Olympic weightlifting. He was introduced to CrossFit in 2008 and began working within the community in early 2010. Chad is now part owner at CrossFit Centex, where he holds weekly weightlifting classes while doing occasional seminars throughout the U.S. Chad has a natural, matured understanding of how the body best moves and is highly motivated to help anyone find his or her perfect snatch and heftiest clean and jerk.

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