

The Deadlift

From the Floor to Lockout (Part 1)

WEEKLY

By Matt Gary

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The squat is the king of all exercises but the deadlift is the purest test of total-body strength. The deadlift primarily focuses on the musculature of the back, hips, and legs while recruiting just about as many muscles as any other exercise. The concentric-only nature of the deadlift is unique to the powerlifts because the squat and bench press both afford the lifter an opportunity to lower the bar first before actually lifting it. Without the eccentric phase, it's nearly impossible to generate any momentum and stretch reflex utilization is practically non-existent. A belt, knee sleeves, suits, and wraps offer the least ergogenic aid in the deadlift. Accordingly, one's performance in the deadlift is largely determined by three factors: genetics, technique, and training.

Genetics (Leverage)

As with all athletic endeavors, genetics play a major role in aptitude and performance. The most favorable physical attributes for the deadlift are a short torso, long arms, and long legs. Lamar Gant possessed all three traits in addition to having severe scoliosis which helped him become the only person to deadlift over five times bodyweight in two weight classes. The torso acts like a lever and does the lion's share of the work. A shorter torso makes for a shorter moment arm while longer thighs creates a higher pivot point at the hips. Long arms simply decrease the distance of bar travel from the floor to lockout. A deadlifter's physique is mostly opposite to the desired characteristics for squatting and bench pressing. Longer arms and legs usually translate to more work being done. But, in the case of the deadlift, longer limbs actually mean a more efficient movement.

SUMO DEADLIFT



USAPL Hall-of-Famer Sioux-z Hartwig-Gary and the mighty Ed Coan prefer a modified (medium) sumo stance.

SUMO DEADLIFT



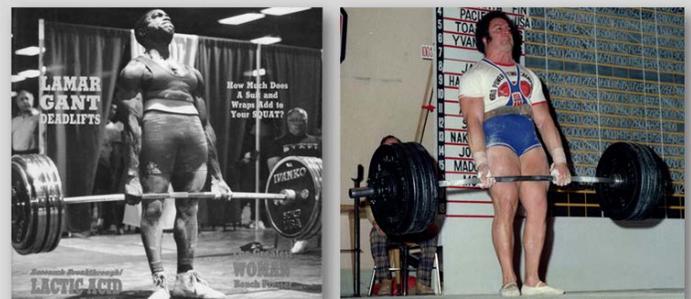
The incomparable Wei-Ling Chen and Eric Kupperstein exemplify the ultra-wide sumo stance. (Notice how their feet almost touch the plates.)

CONVENTIONAL DEADLIFT



IPF (raw) World Record holders Kimberly Walford and Brad Gillingham both employ the more traditional hip/shoulder-width conventional stance.

CONVENTIONAL DEADLIFT



Both Lamar Gant (left) and Vince Anello (right) had incredible success with the ultra-narrow "frog-style" conventional stance.

Technique

The powerlifts should be viewed as movements executed rather than muscles used. Executing deep barbell squats, paused bench presses, and locked out deadlifts with significant weight requires kinesthetic awareness and skill. Any klutz can use their muscles for curls. At SSPT, it's never a leg, chest, or back day. It's squat, bench press, and deadlift day.

Train like an animal. Think like a human.

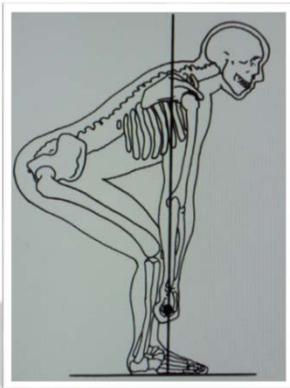
SSPT lifters don't exercise. They train because training is our practice. After all, strength is a skill and skills are refined through extensive practice. Consistent, quality, and repetitious practice leads to technical mastery. Therefore, technique is the single most important factor in acquiring and performing a skill. Without solid technique, skill acquisition and strength development takes longer thereby forcing one to rely more heavily on genetics and ergogenic aids.

Developing appropriate deadlift technique should be largely based upon one's anthropometry. Limb and torso length usually determine how you're going to perform the deadlift. The most perceivable aspect of deadlift style is stance. Deadlift stance is expressed across a broad continuum with frog-style, conventional stance pullers like Lamar Gant and Vince Anello at one end of the spectrum and ultra-wide, sumo lifters like Eric Kupperstein and Wei-Ling Chen at the other. Most of us fit somewhere in between.

I'm frequently asked about my preference for foot placement. My stock reply is, "I'm not married to any stance other than the one where you can lift the most weight." Lifters tend to place their feet where they're most comfortable. When a lifter is in a comfortable position, they typically move more proficiently. It's incumbent upon the lifter to experiment with both styles and see what works best for them according to their leverages.

The default deadlift stance is conventional because it resembles the "athletic position" which translates better to most activities and sports. The athletic position is approximately shoulder or hip width. You see it all the time in baseball, basketball, boxing, football, and tennis to name a few. I coach my conventional stance deadlifters to stand where they would for a vertical jump test. This is routinely the place where most people are able to generate and transfer the most force into the ground. When using a conventional stance, the toes are pointed out slightly while the hands are placed just outside of the legs thus elongating the arms.

A sumo (wide) stance deadlift, with the feet placed outside the body, is irrefutably more efficient by shortening the distance of bar travel. However, what one gains in efficiency they often lose in force transfer. This is also seen with wide-grip benchers who struggle to get the weight moving off the chest or the wide-stance squatters who grapple with hitting depth and coming out of the hole. Sumo deadlifters are routinely slower from the floor and then accelerate through to lockout whereas the conventional style is usually opposite. Powerlifters should opt for the stance that enables them to lift the most weight. Regardless of one's preferred stance, body position is vital.



Mark Rippetoe's famous diagram from Starting Strength illustrates the proper start position for the deadlift. Notice how the arms, thighs, and back form a triangle. Each person's triangle varies based upon his or her own unique structure. Longer thighs lead to a higher hip position while shorter arms lead to a more forward or horizontal torso. Regardless of what your triangle looks like, the hips will be in the correct spot as long as you satisfy the four, all-important technical standards. If you've never been in this proper start position before, your hips will feel abnormally high. But I can assure you; they're exactly where they're supposed to be. In fact, a properly executed deadlift will feel like a shorter movement due to the vertical-only bar path.

Four crucial criteria must be satisfied to ensure the proper start position in the deadlift:

1. The bar must be placed over the middle of the foot. This isn't the part of the foot you can see when you look down but rather the mid-foot. Typically the bar needs to be about one to two inches away from the shins depending upon the length of the foot, height of the lifter, and hamstring flexibility.

2. The arms must be kept straight and locked in extension.

3. The back should be held in rigid extension and as flat as possible. Slight thoracic kyphosis (rounding) is acceptable provided the lifter maintains intra-abdominal pressure and tightness throughout the torso.

4. The scapulae (shoulder blades) must be directly over the bar.

Neglecting any technical principles will significantly compromise the movement and lead to decrements in performance. A slight, initial rise of the hips, at the start of the pull, is not in and of itself a technical flaw so long as you're in the correct start position. Hip rise is frequently a sign of not being tight enough. Just remember that maximal attempts won't always look like ballet and things do tend to break down. This isn't the end of the world but we should all train with the goal of becoming as strong as possible and therefore delaying the onset of form breakdowns. The longer you can hold your optimal position during a max attempt, the better off you'll be.

Oftentimes improper bar and shoulder placement give way to both hip rise and horizontal bar displacement in what should ideally be a vertical-only lift. This horizontal movement known as "hook" is an unwanted technical inefficiency. Sumo deadlifters are famous for this when trying to squat the weight up. Occasionally you'll hear one quip, "The deadlift is just a squat with the bar held in front of you." Don't believe this fallacy. The deadlift is not a squat. Oppositely, the deadlift is a hip-hinge movement with the ultimate goal of the bar and hips meeting in the finished position. While the squat is a leg-dominant movement assisted by the back, the deadlift is a back-dominant movement assisted by the legs. Much is different between the squat and deadlift including bar placement, hand position, stance, center of gravity management, muscle contraction sequencing, and the degree of knee and trunk flexion vs. hip extension. As a result of these differences, it's reasonable to approach deadlift training differently than the squat or bench press.

About the Author

Matt Gary has 20 years of powerlifting experience. He has served as both head and assistant coach on numerous international teams and currently coaches over 50 lifters from novice to elite. In 2012 he was named USAPL Coach of the Year and currently serves on the USAPL Raw Committee, as Chairman of the USAPL Coaching Committee, and is a qualified National Referee. He and his wife Sioux-z own Supreme Sports Performance & Training, Inc. (SSPT) in Rockville, MD, which is one of the nation's premier training facilities for powerlifters and weightlifters.



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