

# The AJAC Guide to the Squat Bench and Deadlift

*Part 4*  
*Deadlift*



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# The AJAC Guide to the Squat Bench and Deadlift - Part 3

## Why The Deadlift Comes First

In the fitness world, there is an occasional “chicken and egg” argument over whether the deadlift or the squat is the more foundational movement. Generally the squat is given precedence, with the rationale being the deadlift is moving an external load, while the squat is moving your own bodyweight.

This sounds coherent, but it’s not as simple as that.

I consider the deadlift the most fundamental of human movements, more so than even the squat. On the continuum of human development, the deadlift, which is, in fact, the ability to “bend the hips” for which technical term is hip extension, it precedes the “squat” pattern, which is hip and knee bend together.

A deadlift is taking the body from a “bent” position to a standing position. The gravity of this, no pun intended, cannot be overstated. The ability to stand upright under your own power, that is a critical milestone in physical development for humans. And it comes before squatting.

## Motor Development 101

To interact and navigate your environment, you must be able to MOVE. Humans are incredibly versatile at moving and possess a range of movement skills that other animals do not. To be a healthy and well functioning human, you must be able to move well.

As such, there is a developmental continuum of motor coordination, that starts the instant you are born. It begins with your vision and hearing, and the muscles that hold up the head. This is why a baby turning its head is a big deal. What is happening is the the cervical and spinal muscles are developing.

Your ability to move follows a continuum-grasping objects, holding up your head, turning your head, bearing weight on your arms, extending your spine, rolling from your back to your stomach, bearing weight on the legs, and so on and forth.

Now, I'm not going to go through the entire motor coordination continuum piece by piece, as the critical point to understand is that your body develops in stages. The adage of "you cannot run until you can walk, you cannot walk until you can crawl" is true.

Relative to the deadlift, there is a critical milestone that occurs, and it is why I believe the deadlift is the "foundation" lift,

- Before you can crawl, walk, or squat, you must be able to STAND.
- Coaches that do not have children, or have never been around babies, this is why they make the assumption the squat comes first. It DOESN'T. For those of you have that kids, you know that a baby being able to support weight on its legs in a standing position came BEFORE it was ever running around and squatting, or even crawling.

If you watch babies at this stage of development, you'll see that they don't immediately squat to stand up. They need help. It's not as if you go from crawling and then one day they pop a squat and walk upright.

What they do is pull themselves up, and the parents help them often, and they do a "hip bend" to get themselves to a standing position.

Babies will start crawling and standing at the same time. Why is this? The patterns overlap. Standing requires immense coordination and alignment of the skeleton against gravity.

Crawling requires locomotion of all four limbs, it strengthens the core muscles immensely, and it gets the hip flexors working the can pull the legs forward. It also reinforces the spinal alignment.

(Unfortunately, the vast majority of adults lose the ability to crawl. This is not good, as it indicates that you no longer have the musculoskeletal “suppleness” for athletic movement, and your body is likely excessively stiff. But crawling is another subject for another time)

If you combine crawling with standing, they eventually start to try walking.

If you watch a baby learning to walk, they also do not take normal steps either. Those inner thigh muscles and core are not yet built. They take pitter patter steps, with their feet splayed out, and they lose their balance a lot.

It’s only when they are able to stand up easily after a lot of hip bending and dragging themselves up, that do they begin to squat readily.

Therein lies the major difference,

The deadlift is the ability to stand up AGAINST gravity.

The squat is the ability to descend TOWARDS gravity.

Being able stand up straights happens before you can squat back down again. So do I rest my case that the deadlift is fundamental. To quote the esteemed physical therapist Grey Cook,

“Build your deadlift, maintain your squat”.

## **A Simple 5 Step Process for Proper Deadlift Technique**

Technique can be made complicated, or be made simple. I generally keep most barbell lifts down to 5 cues or less; the approach, the setup, the initiation, the rep, the finish. If you learn a lift in sequential stages, its very easy to engrain proper technique.

**1 Stand with the feet directly under the shoulders**, approach the bar, and align the bar over the middle of the foot. This should be about 1 inch away from the ankles

- Bar over midfoot, hips and shoulder aligned together

**2 Bend Over from the waist**, and grab the barbell shoulder width with both hands, using a monkey grip (wrap the thumb around the bar) and grab the bar HARD. Do not grip it softly

- Grab it even, squeeze it rotten

**3 Bring your hips closer to the bar** by bringing your shins in contact with the bar, this will get your hips in the proper alignment to pull. When you do this, you'll want to start tensifying (flexing) your glutes

- Shins to bar, hips get hard

**4. Before you go to pull, Breathe deep** and get your chest up as much as possible. This will lengthen out your arms and get some tension going into the bar

- Breath right, Chest High

**5 Stand up with the bar by driving your hips forward and heels down**, bringing your butt level with the bar. This should be a violent movement of maximal explosiveness

- Generally, I just yell drive drive drive drive, or ass ass ass ass at the person. I have nothing catchy for this cue

There are your cues.

There many like them, and they are not very original, but they work, and if you do all them, you are probably lifting with decent technique.



## A Common Question: Are deadlifts for your legs, or for your back?

The answer is both. Deadlifts can be a back exercise, or a leg exercise. Deadlifts are a total body movement, and it depends on how you perform them.

To determine how YOU should perform deadlifts, there are three different approaches to follow.

## The Trifecta of Deadlift Directives

### 1. Deadlifting for Maximal strength-This will be a powerlifting mindset

This is what most people are familiar with. You want to your 1RM to go up, and improving your deadlift will prioritize that goal.

You'll likely have a deadlift day, in which you train the lift in a manner that addresses your strength and weakness.

You train the deadlift heavy most the time, in the 70-90% range. Your reps will be from 1-5, with the occasional higher rep set depending on the program.

You may group squats and deadlifts together. This can be a viable strategy if your legs and hips are of comparable development, in which case it can be complementary to pair them up. This also drops training down to 3 days weekly is necessary, or even 2 days if you are truly time constrained.

### 2. Deadlifting for glutes and hamstrings

For this scenario, you'll do deadlifts on your leg day, or on your glute/ham day if you train quads on their day (predicated by following a bodypart split).

You'll deadlift with moderate intensity, in the 60-80% range.

Your reps and overall volume can be higher as a result. I'd recommend 5-10 reps per set if your focus is on hypertrophy of the glutes and hams.

You'll use stiff leg deadlifts (deadlifts with almost straight legs), and Romanian deadlifts (deadlifts with maximal hip extension). Stiff legs are my preferred movement for hamstrings, while Romanians are more glute dominant-You can use barbells, DBs, kettlebells, cables, and whatever other implements you want to utilize.

### **3. Deadlifting for back development**

Snatch grip deadlifts, block deadlifts, and rack pulls will be your go to exercises.

My suggested method would be to rotate lifts weekly. This will keep progress continuous, and the exercises are all complementary to each other.

To emphasize back development, you want to emphasize the upper 2/3 of the movement, and perform variations that place the stress primarily on the back versus the hips.

Intensity can vary, but the 70-80% range will be best for strength and hypertrophy. Total volume will be low to moderate. The lighter you go, the more overall reps and sets you can do.

Reps work best in the 5-8 range if doing multiple sets.

If training rest pause style, two straight sets, one set higher reps, one set lower reps, this can be an effective strategy as well.

When deadlifting for back development, make use of straps and a belt. They are not mandatory, but they are helpful. The focus is building back muscle, not give your grip or lower back a workout.

## Summation

Deadlifting, like all other exercises, it is context dependent. The version you perform is relative to your goals, and there is no perfect exercise or program.

## Is the Deadlift Truly A Back Movement?

If your back is WEAK, then the deadlift is going to feel like a BACK exercise.

But, this is not generally a good thing, as the primary movers on the deadlift are the hamstrings and glutes. While the deadlift heavily works the back, the muscles that it is more directly targeting in terms of functionality is your butt and the backs of the thighs.

This said however, the deadlift CAN be performed as a back exercise, and often this. So how do we reconcile that with what I said?

You can think of it this way:

**1** IF your glutes/hamstrings are strong enough to support your spine, THEN you can perform the deadlift with “back emphasis”, and your spine will be protected.

**2** But if your glutes / hams are not strong enough to support your spine, then performing the deadlift with “back emphasis” will lead to dysfunction and excessive spinal stress.

This begs the question of:

**“How do you know when your glutes/hamstrings are strong enough then?”**

and probably

**“What does it mean to do deadlifts with back emphasis?”**

To answer them in order.

**1** The way to know if your glutes and hams are strong enough comes down to technique and where you FEEL the movement. Ideally, when you perform deadlifts it feels like your glutes/hams are doing the major work to get the weight moving, and your back is working hard to stay in a neutral position.

This does NOT mean you don't feel deadlifts in back at all, you will. But if you were to assign a percentage, deadlifts should be felt 60/40, ass and hams to low back.

To use an example, when I deadlift from the floor, my low back DOES get a bit tired, but the majority of the work I feel is in my hips. I do not finish deadlifts bemoaning how sore my low back is going to feel. My soreness will be glutes and hamstrings, with fatigue in the UPPER back from holding onto the weight.

If you do deadlifts, and you don't feel your glutes AT ALL, or your low back feels like it's doing all the work, you are motor pattern dysfunctional. You have trained your body entirely the wrong way, you will get injured, and you need to stop barbell deadlifting and relearn how to move.

**2** Assuming you have strong posterior chain development, THEN you can deadlift with back emphasis. Back emphasis deadlifts tend to resemble stiff legs.

The difference in them is that you are MENTALLY conceptualizing the movement as being initiated and terminated with the elevation of the traps and upper back.

The deadlifts will look as though you are "leading" with the back, and not quite so much the hips. Understand that this is a very very subtle difference, and to the untrained eye, you're not going to be able to differentiate.

## **Simplified Summary**

If your ass is strong enough, you can do deadlifts for the purpose of back development.

Do them on your back day and emphasize moving the weight with your back when you do them.

If your glutes are not strong enough, do deadlifts as a lower body exercise, on lower body days.

On your back days, develop your back with rows, farmers walks, hyperextensions, good mornings and chinups/pullups.

## **10 Most Common Deadlift Mistakes**

### **1. Bad setup**

Not approaching the bar the same way every time, not gripping the bar evenly, not getting the feet underneath the bar, not tightening the body before going to pull. The setup dictates the performance of the lift, if your setup is bad, the whole movement is screwed.

### **2. Not enough warmup sets**

You cannot just slap plates on the bar and pull. The deadlift can be a high risk lift, and if your warmup sets are sloppy, so too will be your working reps.

### **3. Not internalizing the movement**

You need to engrain what good technique FEELS like, not what it looks like. This is true competence. You should be able to deadlift perfectly even if you were blind.

#### **4. ONLY deadlifting with the barbell**

You can deadlift with barbells, bands, cables, dumbbells, trapbars, and kettlebells. There are many ways of training the hip hinge pattern, and the barbell is not the end all be all.

#### **5. Staring at the floor**

This one drives me crazy, simply as it throws off your entire spinal alignment and pretty much guarantees a bad pattern of pulling.

#### **6. Trying to squat the weight**

The deadlift IS NOT A SQUAT. IT IS HIP EXTENSION, NOT DECENSION. If you are trying to squat the weight while deadlifting, you are completely backwards as to what proper technique is.

#### **7. No hip drive**

As I said in the ebook, deadlifting is basically a butt movement. If you are not performing it that way, youre either a very advanced lifter, or more than likely you've no idea what you are doing. And you will injure yourself

#### **8. Running shoes**

NEVER DEADLIFT IN RUNNING SHOES. You want to be barefoot or in the most minimal shoe possible. Cushioning completely fucks with your ability to propriocept and generate force.

Watching people lift in thick shoes makes my eyes bleed.

## **9. Only deadlifting heavy**

You know you can do the movement for more than one rep right? The deadlift is like any other lift, building strength with reps increases the amount of WEIGHT you can use, because MUSCLE is being built, and muscle MOVES weight.

## **10. Not knowing how to breathe**

If you are deadlifting maximally, you do “hold” your breath, but this is done by expanding your lungs fully, locking in your ribcage with your pelvis, and having a neutral spine. Its not puffing your chest up and bugging out your eyes then flinging yourself down to the bar. Learn how to breathe pressurized.

## **High Rep Deadlifts and Almost Rules of Deadlifting**

Some years back, I want to say 2008, I read an article online about performing High Rep Deadlifts as a “Challenge” type workout.

Specifically, the challenge was to deadlift 315 lbs thirty times in 30 minutes.

My deadlift max at the time was about 405, so 315 was about 77% of my 1 Rep max.

I read this workout, and being young and dumb, I thought it sounded badass and manly, so I decided to do it.

It went pretty well right up until the 20 rep mark. I decided I would deadlift single and doubles each minute on the minute. This often abbreviated EMOM. Meaning you do a few reps at the turn of each minute, and then rest the remainder.

The first 10 reps were easy, I got those done fast in a set of 5, 3, and 2.

Then another set 4, then 2, then 1, then 5.

At that point though, my low back was getting tired. Your lumbar spine has muscle attached to it of course, but much of the low back is fascial tissue. As I've learned over the years, getting your lowback muscular requires either heavy weights done sparingly, or very light weights done often.

And the lighter weights tend to work better than the heavier. It is very easy to overwork the lowback with heavy weights (captain obvious statement right there)

I continued with the reps, but I was FEELING them. My deadlift technique is very precise, so it wasn't a technical issue of Cat backing the reps. The problem was that my lumbar was fatigued, so even my technical performance was solid, the stress on the muscles was increasing substantially.

Right on rep 27 was when it happened. I came up, and I felt a distinct pop and tear sensation in my lower back, right side. I had severely strained and/or torn my Quadratus Lumborum.

The QL is a muscle that makes a triangle shape. It attaches from the top of the pelvis to the lumbar spine. It's the muscle that allows you to wiggle your hips up and down, and also acts as a rotator and stabilizer. It's a very important muscle

I ripped the living hell out of my spine, and the pain was immense.

I was absolutely determined to get to 30 reps though, so I did the remaining 3 as one-legged deadlifts essentially. The pain gave me an adrenaline rush, so I gutted them out.

**Total time-12 minutes. AWESOME**

What wasn't awesome were the 3 months or so I spent staggering around to walk, lie down, get out of my car, and generally do anything. I was in pain for awhile.



And to this day, my right QL still hurts. 1-Arm DB rows will make it tighten up in two sets, it has never felt the same since.

## **MORAL OF THE STORY**

High rep deadlifts are inherently risky, and if you get injured doing, it's not going to be a "light" injury.

My own experiences aside, I've observed over the years that high rep deadlifts are a "high-cost low reward" exercise.

Deadlifting puts immense strain on the back obviously. And unlike squats, the spine is constantly being put under flexion and extension stress on every rep.

In a squat, your spine stays in the place, and its top loaded. It's a hell of a lot of pressure, but if your technique is solid, the weight is basically a stabilizer for your spinal position.

In the deadlift, it's the opposite, the weight is in front of you. So on every rep, you've got immense stress that starts at the sacrum and travels up the whole length of the spine. The starting position of every rep is a test of anti-flexion strength.

There is a reason deadlifts freak people out, they ARE hard on the back after all, and the hip extension position is one that many people commonly injure themselves in.

All this said, this doesn't mean that you avoid deadlifts. Deadlifts done properly are immensely strengthening, and as I've written about in the past, they are the foundational movement pattern to learn and reinforce.

That said, there are some general rules I follow now with deadlifting. I've narrowed them down to eight in total.

## 8 Almost Rules of Deadlifting

### 1. The Technique is Numero Uno

If your technique is lousy, you are compromised no matter what kind of program you do. You **MUST** perfect technique Before you ever focus on getting strong.

This may sound backward, but its not. If your technique is off, the muscular development of your entire posterior chain will be defective, and the flawed motor pattern you engrain could take months or years to break and change.

Learning proper deadlift technique might take many months and a lot of relatively light weights, mobility drills, and corrective work, but it must happen.

### 2. Always Warm up appropriately

This means different things depending on your age.

Typically speaking, the older you get, the more time it takes to your body into an aroused state. That said, regardless of how young or strong you are, you need some type of effective warmup sequence before you go into your working weights.

Whether its KB swings, glute work, a few light weight sets, etc, do SOMETHING. Skipping warmups is a stupid.

### 3. Do not perform more than ONE high rep set with heavy weights

My favorite methods for deadlifts are 5th Set methodology, and what I call Rest-Pause Rule of Two. In 5th set, you do four sets of 2 reps, then one all out set of as many as possible.

In rule of two, you do one high rep set, and then another follow up set of at least half as many reps (10+5, 8+4, 6+3).

The deadlift does NOT take much heavy volume to improve at, and it takes a long time to recover from.

If your training is programmed intelligently, one high rep is all you need to make improvements.

You also ensure that you never train your deadlift in an excessively tired state where injury could happen.

#### **4. Intensity and Frequency are Inverse**

Heavy deadlifts are harder on the body and the CNS more than any other exercise. They tire you physically and mentally, and the stronger you get, the greater the fatigue. Because of this, you cannot deadlift “heavy” all the time.

I’ve discovered the strongest powerlifters and strongmen ALL deadlift heavy, but infrequently. Only one or twice a month in some cases.

That might seem crazy, but it’s not. The deadlift takes more than it gives, and relative to the progress you make, you do NOT need to train it heavy that often to make “gains”.

One of the most successful powerlifting coaches I know, Swede Burns, his lifters deadlift once every 10 days. And they routinely set PRs and records year after year, making linear strength gains, even the most advanced of them.

Or the most successful powerlifting gym in the world, Westside Barbell, they are another example. Their lifters will often go weeks without deadlifting. They’ll perform the movement only a few times at the end of a training cycle. Westside currently owns hundreds of records in the sport of powerlifting.

In Strongman, the pattern repeats. They deadlift heavy maybe twice a month, the rest of the time focusing on speed with lighter weights, or performing deadlift variations that are not the barbell.

My good friend, Martin Licis (he just came in 4th at Worlds Strongest Man 2017), he'll go MONTHS without ever deadlifting heavy. His best in the gym deadlift though is 900lbs, and he rows 405 lbs for REPS. Somehow not deadlifting every week hasn't hurt his strength gains.

Examples abound, but the point is made. The deadlift is best trained heavy with Infrequent Consistency.

If you deadlift at 80% or above, I suggest training the deadlift once every 9-10 days. If you deadlift below that, in the 70-80% range, you could deadlift once a week max. And if you deadlift lighter than that, THEN you could try higher frequency. But only then.

## **5. Lower volume work best for strength**

Relative to strength development (putting more weight on the bar) it's been my professional experience and study that Prilepin's strength chart is dead accurate with the deadlift. The heavier the weight gets, the fewer reps you should do, and effective volume skews LOWER, not higher.

Even if the volume is the same, it's better to break it up into multiple sets. 5 sets of 2 @80% works better than 2x5@80%.

You won't get fatigued nearly as much, your form will be better set to set, and you'll recover faster. Same for 5x3 versus 3x5, or even 10x2 versus 4x5.

When I started breaking up my client's deadlifts into smaller sets, everyone got stronger, technique got better, and they enjoyed the workouts more because every rep was explosive and felt strong.

## **6. The Conventional Deadlift is a Mediocre Musclebuilder**

This is almost heretical to say in certain circles, but I know I'm not the only coach with this perspective. The deadlift is an immense strength builder, but the conventional deadlift does NOT build crazy muscle.

There is no eccentric component, none of the back muscles are placed into a stretched position, and you cannot perform that much volume at all with the lift 25 total reps maybe. That is not enough stimulus to grow substantial muscle.

People can argue against this, but I already know what the arguments are. Novices gain muscle because they've NEVER trained, so that skews the perception of results. And the mass increases come from other movements like rows and chins. Or squatting.

If you only did rows and chins, you'd have a very muscular back.

But if you only did deadlifts, I can guarantee you'd never grow much muscle.

This is easily seen in bodybuilders, many of whom never deadlifts, but have barn-door backs. In contrast, I see guys all the time who have drunk the Starting Strength or 5x5 kool-aid. Three years later, and you'd never be able to tell they lift weights.

## **7. The conventional deadlift is not the only form of deadlifting**

You've got Romanian deadlifts stiff leg deadlifts, Kettlebell swings, DB deadlifts, weighted back extensions, glute ham raises, and good morning movements.

While none of these movements are going to be loaded as heavy as conventional deadlifts, they are all arguably superior musclebuilders, and they build the muscles that enable your deadlift strength in the first place.

This is why off the floor deadlifts are not mandatory in a program.

Unless you are a powerlifter, you've got a multitude of movements you can perform that train the hip extension pattern and are more effective for hypertrophy (relative to the purpose of the movement).

At the same time, if someone is scared of the conventional deadlift, you've got a ton of alternate options for them to perform, and can build them up towards the movement itself.

## **8. Heavy KB Swings are a phenomenal substitute for the Deadlift**

A few years back in 2012, I had about 3 months where I did not deadlift at all. What I did do was double KB swings with two 24KG bells, and heavy "T-handle" swings with 150lbs. I did this about 3 times weekly, and could easily do multiple sets of 10 reps for both movements.

When I went and tested my deadlift, I pull 435 for a shockingly easy rep. I was about 190lbs at the time, and I was pretty pleased with this.

I was surprised though, and started researching KBs further. As I found out, this transfer effect was not an accident. Many KB enthusiasts had discovered that by focusing on heavy KB work, their deadlifting strength rarely went down much at all, or maintained itself with only minimal training. KBs are a "dynamic deadlift" after all. They are an explosive version of the hip extension pattern.

If you love to deadlift, then deadlift. But for the sake of longevity, I'd put my money on heavy KB swings being a more sustainable exercise in the long term. If you maintained the ability to do heavy KB swings with half your bodyweight your whole life, you'd never have to worry about lacking muscle in the posterior chain.

And you'd have very very strong hips.

## **9. Do Not Squat and Deadlift Heavy in the Same Week**

Let's say you deadlift and squat once a week. Your CNS is getting depleted from both. What can you do?

Alternate the intensity. Squat at 70% one week, deadlift at 80%. Next week, reverse them. This will mean the volume and reps will be different, but that's the point. You are modulating the intensity of both.

This also applies if you want to try squatting and deadlifting in the same workout.

Do NOT go heavy on both.

Do one lift at 80%, the other at 60%. So you are training strength, and training power and technique.

## **10. If your deadlift is stalled, you Need more Muscle**

I've had to metaphorically bash people over the head with this one. As I say often, muscle=movement.

If you are weak at a movement, build the muscles that do that movement.

If your deadlift is stalled, figure out what muscles are weak links, and work the hell out of those until they are no longer a limiting factor

When training the deadlift, how often do you consider that your spinal extensors may be the limiting factor? And beyond that, how often do you directly train them?

The spinal erectors are generally assumed to get worked just from deadlifting, but as anyone who has ever used good mornings or the reverse hyperextension to great effect knows, getting the spinal erectors stronger can have a major impact on bringing up your deadlift.

## Some Key Points to Consider with the Spinal Erectors

- The ability to maintain a neutral spine while deadlifting, or even a reinforced “rounded” spine position, is dependent almost entirely on how strong your spinal erectors are.
- While the glutes are of course emphasized as being the major mover in the deadlift, having underdeveloped spinal erectors will limit your ability to maximize your hip extension. Your back and ass have to match each other.
- The spinal erectors are made up almost entirely of slow twitch fiber. These are the muscles that keep your spine lined up — they are made for endurance. Training them with moderate to high reps and sustained time under tension is the most direct strategy for hypertrophy.
- For those individuals who cannot deadlift heavy, direct extensor work can be an option for strengthening the back, along with the usual rows and vertical pulls.
- For bodybuilders and physique competitors, a well-developed set of spinal extensors can instantly set you apart on the stage.

All that said, how should you go about training them? Read further.

## My Top 10 Movements for Direct Spinal Extensor Work

### 1. Reverse Planks

This movement is an uncommon one, but incredibly effective. I’ll give credit to Jeff Ward of Burn Fitness in Tampa, Florida for turning me on to this movement. Jeff has had numerous disc issues, and he showed me this movement as a way to develop the back extensors without the sheer forces that deadlifting puts on the spine.

I put this movement as my number one because it is the most universally



“friendly” exercise. Any level of trainee can perform this, and it’s shockingly challenging for even an advanced level lifter.

It can be performed bilaterally and unilaterally, and the unilateral version especially will reveal if you have a major strength deficit between your right and left side. The movement is best performed with timed sets, from anywhere between 30 and 90 seconds.

For the bilateral version, you can increase the difficulty by placing a weight on the hips. The unilateral version you can do for reps, alternating legs, or for timed sets. Be aware, these will give you a wicked lower back pump.

I suggest two to four sets, done at the end of your deadlift or back day.

## **2. Reverse Hyperextensions**

No list would be complete without this movement. There is no real substitution for a reverse hyper, and try as I might, I’ve never found any exercise that quite replicates a well-designed reverse hyper machine. That said, if you have access to one of these, the sets and reps vary, as does the setup with the strap and changing the leverage of the movement. Beginners may need to just start with bodyweight for two to three sets of moderate reps. As you get stronger, you can add load as appropriate.

## **3. GHR Back Extensions**

There are also back extension “machines”, but only the most old school of gyms have them.

The [GHR](#) works great for this movement, and these can be bodyweight, weighted, banded, and you can alter the leverage as needed. I

’m preferential to higher reps and “heavy” sets of 10 is about as low as I’ll go for most recreational lifters.

## **4. 45-Degree Hyperextensions**

An old school standby. For some reason, these seem to have fallen out of favor, but they work very well. They also are always in commercial gyms, which makes it a great tool for those that don't have the hardcore setup.

I prefer starting with higher reps. Two sets of 20-50 with bodyweight is what I'll have recreational lifters progress to. Putting your hands behind your head increases the difficulty, and resistance can then be added with a band or plate.

Finnish powerlifters will hold a barbell across the shoulders, which also works very well.

The single-leg version is a great way to address left/right asymmetry also.

## **5. Hatfield Back Extension**

I picked this up from CJ Murphy of TPS in Boston. This can be done on the GHR or on a regular exercise bench. The movement is deceptively hard, but it targets the mid back extensors better than any other.

I like these for two to four sets of 8-15 reps. You could add weight to this, but I feel its best done as a pump movement for reps.

## **6. Banded Good Mornings**

I often use this movement to prepare my novice female clients for deadlifts. Getting their spinal extensors stronger and conditioned makes using the barbell much easier their first time pulling. These can be progressed to however many bands you can reasonably stand on. I've gone as high as five sets of 20, but two or three sets of 10-20 reps is more reasonable.

## **7. Good Mornings (Classic Version)**

Some people absolutely hate these, but performed appropriately, the good morning is a great exercise. One tactic I borrowed from Louie Simmons is using good mornings to build the deadlift.

I've successfully done this with novice clients many times over.

Good mornings uniquely condition the back and posterior chain to handle pulling. Two to five sets of 6-10 reps works well.

To note, I never have anyone go heavy on these, beyond two plates a side, but I also don't train elite level powerlifters.

There are obviously many different versions with specialty bars and accommodating resistance, but I am keeping this list broadly useable.

## **8. Good Mornings Off Pins**

What do these do over the freestanding good mornings? They emphasize the start of the deadlift position extremely well, and they deload the weight at the most stressful position.

I personally love these, but they tend to be completely screwed up and turned into a "standup squat" by most people.

To perform these properly, you set the bar to the height of your torso at the start of the deadlift. It would be akin to setting for a deadlift, then letting go of the bar.

Some people may benefit to a lower bar position, but use your deadlift setup as the guide for the pin height. Two to three sets of 6-10 reps is recommendable.

## 9. Snatch Grip Deadlifts

Most people have never done these, but they are my favorite kind of deadlift and brutally effective at building the upper back, spinal erectors, and glutes. Two to three sets of 5-10 reps work great, and I would not recommend using more than 70% of your deadlift 1RM.

Done correctly, you feel these from top to bottom in your spinal erectors and traps.

Done incorrectly, you will fuck yourself up.

## 10. Jefferson Curls

Some people may scoff at this as a “mobility” movement, but I experimented with it earlier this year, and all my trainees were shocked at how sore their spinal erectors and mid back were the next day.

These are essentially very slowly performed deficit toe touches, with the emphasis being on curling up the spine, vertebrae by vertebrae until standing.

Doing these heavy is asking for injury.

Two to three sets of 8-10 reps with light dumbbells is the sweet spot. If you have ridiculously tight hamstrings, these will ruin your life, but you probably will benefit from them.

## Assessing Your Own Deadlift

The deadlift is a total body movement, and the muscles that it emphasizes depends entirely on HOW you perform it.

Figuring out how to train it requires some clear mental models first

## Some Basic Biomechanical Info

There are 4 things happening in the deadlift with the major muscle and joints of the body.

**1** Back Extension-Your back muscles are worked to keep your spine from flexing, and this requires anti-extension strength. In an absolutely ideal, perfect technique deadlift, the back muscles work isometrically, and the glutes and hamstrings do all the work.

In reality though, there is often a degree of flexion and extension in the back, and if you are deadlifting heavy, your upper back can be worked HARD to fully straighten out. Even if you maintain a straight spine, the back muscles still have a tremendous amount of force running through them that they have to resist.

**2** Hip Extension-Your hip started in flexed position, and then extend forward into a standing position. From a biomechanics perspective, the primary movers in hip extension are the glutes and the hamstrings. The back muscles are worked isometrically.

For a “perfect” deadlift, the movement should be felt in the glutes and hams. This requires that your back strength match/exceed your hip strength though, which is something most people are deficient in. If your back is weak, deadlifts will ALWAYS feel like a back exercise.

**3** Knee extension-The deadlifts dont really work the quads all the much, but they do take some measure of thigh strength. With proper deadlift technique, there is “press” into the floor that is often equated to the drive of a leg press. If you have weak quads and cannot press hard through your feet, this can alter your deadlift and result in the familiar “Catback” back bend technique that I warn about.

**4** Grip and arm strength-I’m grouping these two together. Those regular readers know, I emphasize that hand strength and arm strength go together. Holding onto the bar takes grip strength, and the easiest way to

improve grip is to training arms, especially your biceps and forearms.

If we take the above and pare it down, we end up with the following:

Isometric Muscles-Grip, Back.

Primary Movers-Glutes, hamstrings, and quads, with glutes and hams being the more critical of the three overall.

Overall Movement=Leveraging Hip extension strength against the loaded barbell.

## Biomechanics in Practice

I hate technical anatomy jargon, because no one cares and until you do the lift, none of it makes sense anyways. But let's get somewhat technical (my version of technical, which is not very technical to begin with)

The deadlift I break up into three movements.

- The break off the floor
- The passing of the knees
- The lockout

I break it up this way because it makes easy to figure out what the muscles are doing at different stages of the lift. Per how I teach it, there is a Right way, and Wrong way to conceptualize it. I'll list the right way first, and the wrong way second.

**1** The break-To break the bar off the floor, you need to be PRESSING down hard into the floor with the feet. If you have good technique, you'll use hip extension and leg drive to move the barbell. It feels somewhat like a leg press with a hamstring glute squeeze. If the weight is really heavy, this might be slow, but if you've been practicing with proper technique, the body will coordinate efficiently.

However, If you have bad technique, you'll yank on the bar with your upper back. Because you conceptualize the deadlift as a back lift, so why wouldn't you?

Your natural inclination then is going to be to pull UP with your back, not pull forward with your hips. So already, you are feeling the deadlift in the back. In fact, you probably just got bent over in your upper back, which screwed up the whole rest of the lift

**2** The passing of the knees-Assuming you've started extending your hips, then your glutes and hamstrings especially are working hard to straighten out your legs.

Your back is getting worked isometrically, with all the back muscles hardened up like steel to prevent the bar from bending your spine forward.

OR, if you are like 99% of people, you pulled the bar up to get it off the floor, and now you are trying to straighten your BACK out. Your hips and legs might have straightened out, so now you are doing a hybrid stiff leg back straightener movement.

**3** The Lockout-A proper lockout is a hip thrust. If you've got strong hips, it's the easiest part of the movement. If you've got weak hips, you'll shake a scared puppy. The lockout is an ass squeeze, it should feel like your busting walnuts with your cheeks.

If you've been pulling with your back this whole time, you won't do a proper lockout, you'll do a soft lockout, or even worse, you'll do that thing where people lean really far backward, hyperextending their low back. DO NOT DO THAT. It's sheer force and compression all at once on the spine.

It sounds like you are saying the hips are what you should emphasize when deadlifting?

More than just the hips, your performance on the deadlift is driven by you visually imagine the lift.

This frustrated me with clients when I first started training, as I couldn't grasp why their movement would be so wacky. When I asked them to describe to me what they thought the lift was (any lift), I then realized their internalized mental image was completely flawed and/or incomplete.

Nowhere is this truer than the deadlift. You want to imagine the lift as a hip drive, hip thrust, hip snap, hips to the bar, hip leverage, etc.

If you imagine it as a back movement, that's what it ends up becoming. Trading one mental image for another can be a very powerful “cue” then that can dramatically change the performance.

## **Back Strength Versus Hip Strength**

Aside from the conceptualization though, you also have the strength demands of the lift itself. I divide this into two aspects

- Back Strength
- Hip Strength

The deadlift **SHOULD** primarily work the muscles of the hips, **BUT** for the vast majority of people, their back strength is both the dominating and limiting factor, and their hip strength is the dominating and limiting factor.

How does that make any sense?

I shall explain further, The deadlift Strength Continuum

### **Total Beginner - Limited Back and Limited Hip Strength**

In this first scenario, you have someone that has a weak back, and even weaker hips. Their hips are so weak in fact, that when they go to deadlift, these muscles are paltry in their contribution. Because of this, the body uses the spine as the primary mover. This is **NOT** good technique at all, as



it puts the spine into a very strained position, but when you have zero ass muscle, your body doesn't have much choice, something has to lift the weight. This means that the back dominates the movement. Subsequently, the deadlift feels like a back exercise, and there is limited glute recruitment.

**Solution-**For this individual, they'd need to refrain from heavy deadlifting for awhile, and perform activation and basic compound movements for their back, hips, and legs before I'd have them start deadlifting.

You take a Muscle first, strength second approach. This approach would last at least three months. Once they have requisite back and hip strength, then I'd introduce them to the barbell.

### **Strong Back-Weak Hips**

Here is what there is what you might call "Functional Irony". In some cases, usually men, you'll have guys that DO train their back, but they don't deadlift.

They might squat and work quads, but their posterior chain (glutes and hams) is comparatively weak compared to their quads and back. So when they go to deadlift, they run into a similar problem of the total beginners, the deadlift feels like a back movement, and often it's the low back doing the work.

The back is dominating the movement, but not because the back is weak. It's because their back extensor strength is stronger than their hip extensor strength.

**Solution-**strengthen the hips through light to moderate deadlifts and hip extension work before trying to pull heavy. Romanian deadlift, stiff leg deadlifts, and kettlebell swings would all work, along with goodmornings and low back extensions. You might want to do some direct glute work as well with bands and hip thrusts. Once the glutes and hams are stronger, then you could move towards maximal pulling.

## Weak Back, Strong Hips

This is very common with women, but I see it with men as well. For women, it generally in the case of training the living hell out of their legs, which results in very strong glutes, hams, and quads, but then totally neglecting their back.

This results in a lower body that overpower their upper body.

So their HIPS can move the weight, but their back cannot handle the load.

Subsequently, they end up with SI joint issues, low back pain, and/or their deadlift gets totally stuck. Your ass is writing checks that your back cannot cash.

Additionally, you have gentleman that get really into deadlifting, but they never do much else for their back other than pullups and chinups. Subsequently, the whole middle of their back is lacking muscles.

**Solution-**Musclework for the back in the form of rows, rows, some low back extensor work, and more rows.

I cannot emphasize rowing enough. Seated rows, DB rows, machine rows, banded rows, all the rows. Add in an extra 12 sets a week of rowing, and your back strength will catch up with your hips in short order.

If you take something of a powerlifting mindset, and deadlift heavy, then the deadlift is going to be a back movement.

Primary reason being, it's going to be your BACK that is most heavily fatigued and worked by deadlifting.

## **Strong Back, Strong Hips**

This is the optimal scenario. In this situation, your back and hips are relatively equal, and you can focus on adding weight and maintaining whatever your training program is for continual improvements.

At this stage, you'll have more than likely customized your program, and you'll be able to effectively autoregulate your own training.