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## BALANCED BODY SERIES

### *Maintain the Squat - Train the Deadlift*



The purpose of this article is to describe and discuss the importance of utilizing the deadlift as an integral part of any strengthening program. This article is not simply designed to educate the strength coach or performance enhancement specialist, or even the fan of free weight training. This article is designed for the personal trainer, physical therapist and athletic trainer, who often find themselves in situations requiring a functional approach to strength training. I have used these techniques in rehabilitation, and with individuals not interested in athletic endeavors. I have used them with the elderly and with the young, with the result being improved strength, improved body awareness, reduction of left-right asymmetries, and a better appreciation of function. I would be hard pressed to actually find strength conditioning situations, as well as fitness situations that couldn't in some way benefit from the approach I'm getting ready to discuss.

My affinity for this approach does not come from review of literature, research articles or lab results. My enthusiasm for the exercises I'm going to discuss comes from time in the trenches, training individuals from all walks of life and all degrees of function. I would encourage your critique of these exercises only after you've first tried them on yourself and then in varying degrees of appropriate difficulty with individuals of varying function.

First, I will recommend the use of Kettlebells. If no other lift is done with Kettlebells, I feel they lend themselves to single leg dead lifting as well as any other piece of equipment. The Kettlebell has an off-center load with an elevated handle, putting it slightly higher above the ground than a conventional dumbbell. Dead lifting is usually done with a straight bar and a forty-five pound plate, which lifts it off of the ground to an appreciable degree, so that the lifter does not have to exaggerate the forward bending movement. If the Kettlebell still is not high enough off the ground, I recommend using an elevated surface.

The first rule of dead lifting is to reduce the range of motion and lift a respectable amount of weight. Many times in a fitness approach, we will require the same degree of range of motion, but use a lesser degree of weight, with the overall goal being safety and motor learning. I have found the opposite to be true. Reducing the range of motion to that which is a comfortable range and giving an individual a larger amount of weight, significantly reduces substitution and compensation. When bending and lifting something, a light weight will actually evoke elbow flexion, shoulder shrugging and retraction. Whereas, a heavy weight will allow the arm to dangle like a pendulum from the side. This will allow proper reflex contraction of the rotator cuff musculature, elicited by a good firm grip on that which is being lifted. Retraction is not necessary. Elbow flexion is not necessary. Simply hinging at the hip in a smooth manner will lift the weight off the floor.

Neurologists have shown us how both compression and distraction of the shoulder joint elicit better reflex stabilization. We know this by the great scapular stability exercises that can be performed in a push up in plank position. It should also be realized that a traction position on the shoulder will elicit better shoulder mechanics. Don't try to shrug the weight, and don't try to curl the weight--don't

even try to anticipate retraction. Just don't allow the shoulder to yield. Not yielding is stability, whereas retracting is conscious control. The stabilizers of the scapula are simply stabilizers. They don't need to retract or elevate or depress; they only need to stay in their preferred position as the weight reaches traction in the glenohumeral joint. In doing this, they create a stable base for the rotator cuff to stabilize the integrity of the glenohumeral joint.

So, don't be scared about respectable weight. It never ceases to amaze me how small five pound chrome dumbbells are used by personal trainers on individuals that actually carry suitcases that weigh thirty-five and forty-five pounds. They pick up children, and grocery bags, and bags of dog food that far exceed the weight of the chrome dumbbell, and yet, the chrome dumbbell is used for safety. The point of the dead lift is to keep repetitions low to elicit neuromuscular reactions, and create core stability in a hip drive. The repetitions should be kept between one and five repetitions, evoking strength. This is not done for hypertrophy, it is done to create a stable, symmetrical base from which to pull.

Performing the dead lift on a single leg gives even more feedback to the trainer and strength coach because it splits the body into a left and right half, and allows you to appreciate function between the two sides. Over ten years experience with the Functional Movement Screen has demonstrated to me how simple tightness and weakness don't seem to be as big a barrier or risk factor as a left-right asymmetry. Let me say that again. Being different functionally on your left and right side actually put you at greater risk than simply being tight or weak. Tightness and weakness do evoke compensation, but to nowhere near the compensation required when the left and right side of the body don't do the same thing. We walk, we run, we turn, we twist, we swing, we throw, we climb, we lift, and asymmetries between the left and right side of the body that exceed approximately ten percent create compensation with almost every breath.

The single leg dead lift is a primitive movement. I have often used the child as an example when an adult has lost their squatting pattern. I tell them, "we don't need to rebuild your squatting pattern, we need to find it. It went somewhere because I know you already had it; you wouldn't be walking had you not already gone through that developmental phase. And, I'm sure somewhere in your work or travels today you will see a two or three year old with the perfect ability to squat. They don't worry about their knee, hip alignment, or their spinal alignment. It happens perfectly; it's part of a motor program. However, if you take a child who has this perfect squatting pattern and roll them a medicine ball that is actually a large percentage of their body weight, they won't squat with the weight. They will actually get the legs under them and get more into a dead lifting fashion. They will actually dead lift the weight because lifting big weight is done more efficiently from a dead lift posture, than a squatting posture.

Squatting allows you to reduce your center of mass and get your body into a lot of neat positions, and you can lift from a squatting pattern, but it is not your most efficient or powerful lift. The hip hinge is the most powerful lift you have. It evokes core stability, hip mobility, glute development, postural maintenance and overall attention to body alignment. I can't think of a reason why you wouldn't dead lift with almost every population interested in elevating their fitness level. So, as a demonstration of mobility, children squat naturally. But, when they have to deal with a weight that challenges their center of mass and base of support, they will actually dead lift. This is why I refer to it as a primitive pattern. It happens almost automatically when you wish to move weight.

Many individuals think that pulling a bar from a low situation is actually just a dead lift. And, a dead lift has more to do with your hip position than whether you are pulling from the floor or not. I've

seen many people bend down to the floor and actually use a squatting pattern as opposed to a hip hinge. The tibia pretty much remains vertical in a dead lift, and even though knee flexion is used, many assume that the straight leg dead lift used by the body builder to isolate hamstrings is the dead lift to which I am referring. The dead lift, in my opinion, should not isolate anything, except good, crisp hip hinging. This means the back does not round. And, this means that the dead lift is not a forward bend at all. It is basically setting as much of your body weight behind your foot as in front of your foot. So, it is a balance. This will allow the spine to maintain a good, neutral curve. It is actually okay to bend the knees a little bit when getting the weight, but go ahead and straighten those knees to almost about twenty degrees before the lift occurs and only natural knee extension at the top should occur. The entire movement should encompass around the hip joint and create a natural, hinging motion.

The two greatest misconceptions in strength conditioning and fitness with the dead lift are: a low weight pull with a squatting pattern is assumed to be a dead lift, and it is not; secondly, the dead lift is a forward bending motion. It is only a forward bending motion in its appearance. It is actually a sitting back motion, putting the rear end far behind the heels. This is demonstrated when you watch an expert weight lifter lift the weight. They actually lift the bar and it is right over the top of their toe, and they pull it right up the front of their tibia. If you don't know or understand dead lifting, get a book or a video or an article that reviews dead lifting. Watch an expert dead lifter; don't ask questions, watch, observe and note how much strength can be exerted in this primitive lifting pattern.

Of all the lifting patterns that will evoke greater strength gains in a short amount of time, I feel this one is key. If you tell me the goal of the program that you're doing with almost any individual does not really involve huge gains in strength, then you haven't read the latest research on metabolism. Even if you are trying to help someone lose weight, getting them into some form of lifting will actually stoke their metabolism, increase their base of metabolic rate and far exceed those simple gains you are supposed to get through cardiovascular or light weight training alone. And, if you have to do one heavy lift, I can't think of a better one that addresses the whole body than the dead lift. So, once again, we are back to who do you train that can't benefit from some strength?

Once you feel you have an appreciation for at least the basics of the dead lift, realize how important the single leg dead lift can be. The deep rotators, adductors, abductors and flexors of the hip are designed as much as stabilizers as movers. The single leg dead lift allows them to function in this role. They become stabilizers of the hip on a torso on a pelvic girdle that is moving over top of this hip. This is a great way to train, and a great way for the trainer, the strength coach, and the physical therapist to see subtle left-right differences. It also provides the ability to both demonstrate stability and strength when driving from a single extremity.

I want to talk about two lifts from a single leg dead lift position. I want to talk about a hard pull and a functional pull, or a sports lift. The hard pull involves a Kettlebell in each hand, while standing on one foot, with about a twenty-degree knee bend, while the other leg reaches in full hip and knee extension behind the body. The leg reaching behind the body is not allowed to externally, or internally rotate. The toe should be pointed toward the ground at all times. External rotation of the leg will actually allow the hip to open up and throw off mechanics to a significant degree. When two Kettlebells are lifted while standing on one foot, the Kettlebells help balance each other. As you may have noticed, it is easier to walk with two weights, one hanging from each arm, than one weight, because of the balancing effect offered by the two. This reduces the amount of rotation and really focuses on the hip drive and hip extension. This is a great way to develop strength and look at left-right differences in basic strength with

the hip drive. Spend time here, learn how to do this lift, see differences on yourself and then pick one other person and use it to train them.

The other lift is a single arm, single leg dead lift. Everything is the same with the lower body, but now the weight is only used in the hand opposite the leg that you are standing. This creates a cross body rotational torque that you are not supposed to yield to. A significant amount of rotation is generated when you stand on the left leg and pull a weight with the right arm. Core stability is being able to prevent the rotation. Creating a hip drive and not allowing any side bend or rotation is functional stability, this is life-like stability. It means you can use the power of your hip without yielding the stability of your torso.

Very often we go into core training and try to isolate the muscles of the core simply to make someone function better. When we find out that their core works fine as long as their hips aren't moving; it's when their hips are moving that their core starts to compensate simply for left-right differences, weakness, tightness and asymmetry. This gives you an opportunity to look at the functional representation of an individual's stability, while going through a dynamic functional movement. All the more necessary to look at the left and right differences with a right arm, left leg pull, compared to a left arm, right leg pull.

So I will leave you with a few pearls with regard to the dead lift. First of all, if you haven't been incorporating the dead lift into your programming, don't feel bad. I practiced and was quite successful for some time avoiding the dead lift, thinking this is only a power lifting move, only for those who want to lift sick amounts of weight. I didn't really see the functionality of the dead lift. I saw the functionality of the squat, because I saw so many individuals who had lost their functional ability to perform a deep squat. Regardless of whether they deep squatted with weight or not, individuals that couldn't perform a deep squat, even with their own body weight, seemed to have more functional problems than those who could. Squatting below parallel wasn't the issue for me; it was just identifying those people that had lost that movement pattern.

Identifying those individuals helped us develop the Functional Movement Screen and core training methodologies that broke through simple abdominal training and got into whole body pattern training. This allowed us to prevent quite a few injuries, which is what the research is starting to show. So, I thought the squat was doing it all for me, and I was wrong. The squat needed to be mobile, and if you don't have a squat, you need to get it back right away. But, if you try to strengthen only in the squatting pattern, chances are your joints are going to take a little bit of a beating. Only a few of us are natural born squatters, just like a few of us are natural born runners. However, if you are not a natural born squatter, squatting is still good for you. You just can't expect to get all of your lower body strength training from squatting alone, and leg pressing isn't a substitute. The leg press will reinforce some things that probably don't need to be reinforced on somebody aspiring for function, which brings us to the dead lift.

Most people are overtraining their quads and under training their glutes, and the dead lift naturally jumps on your glutes. It makes you have core stability, it makes you stabilize and it makes you drive those hips. It keeps those glutes active, keeps your core hard and keeps your posture in check. So, I've been stating a phrase for quite some time that a lot of people aren't getting. I basically say, maintain your squat, train your dead lift. If you've got a squat, don't you dare lose it. Train it a little bit, maintain it, do all those core stabilization things that I published in "*Athletic Body and Balance*", to show you how to keep that squat. But, train your dead lift.

You can't damage joints doing proper dead lifting. Muscles are the major stress agent of the dead lift, whereas ankles, knees, hips and back can't help but are stressed a little when squatting. The dead lift is all about muscular control and drive. And, remember, you can monitor the range of motion requirement of that dead lift. You can dead lift a Kettlebell off of a crate, or a Reebok step or a chair, as long as it's a significant weight and you are showing me the proper hip hinge, you're going to benefit. And, as you get stronger and more stable, you'll be able to go lower and eventually get that thing off the ground. It is possible to do half squats and disrupt the squat pattern, however, you can do half dead lifts without hurting the dead lift pattern. It's a purely big muscle, strength move. So, my little phrase has been maintain the squat, train the dead lift. If you don't have a squat, get it back.

Do everything we've told you to do in the Functional Movement Screening methodology, and in my book, "*Athletic Body and Balance*", and rebuild that squatting pattern. It's already in there; you've just got to let it out. You've already squatted, at least some point in your life when you were little; you just quit doing that for some reason. So, maintain the squat, train the dead lift. If you're looking for lower body training that enhances core stability and protects your back, this is the way you get strong. You can hit the dead lift two or three times a week without having to think you're going to have some major joint problems. Not many of us will be able to hit the squat this many times and not actually hurt the squatting pattern or hurt our joints in the process. So, maintain the squat, train the dead lift.

Now, let me give you some hints for training that dead lift. Lift a big weight, keep the shoulders relaxed and don't forget to breathe. Keep the grip strong, that'll keep your shoulders safe. Really extend that back leg, both at the knee and the hip; don't extend it higher than the spine, it should look like an extension of the spine. If your chest goes down two inches, you lift that back heel two inches, if your chest goes up two inches, you lower that back heel two inches. They should be perfectly connected; it should appear as an extension of your spine.

Remember, a functional representation of your left-right stability is the cross body single arm, single leg dead lift. And, a functional strength representation of your hip drive and core stability is the double arm, single leg deadlift, Kettlebell dead lift. One focuses and enhances your strength; the other dials in your function and stability. If you feel you need more stability than strength, if you feel you are wobbling on that off center load with only one arm pulling the Kettlebell, spend more time there, but don't neglect the two arm pull. If you feel like, 'my balance is impeccable, I can pull that one Kettlebell, the other side is just really hard, I feel like I want to drop the weight or something like that', then your body is basically telling you, we've got a strength problem. Lighten the weight a little bit, but lift two and really do those pulls. We're not looking for thirty reps here, we're looking for between one and five reps. Shoot for four, get a weight that you know on your best day you can do about four times and never finish ugly. If the third one is the last one you've got, set them down and be done with it. Lastly, when you do a dead lift, you set the weight down each time. I just said basically do a set of four, and really, what I mean is do four sets of one. Reach down, dead lift the weight, set it back down under control, stand back up without the weight, gain your composure and gain your posture, clear a breath, go back down and get the weight again. Actually, it's four sets of one, not one set of four, but you know how we're looking at it.

The idea is to hit about two or three sets of each lift, unless you have an asymmetry. And, if you have an asymmetry, try a one to four ratio until that weaker or less stable side comes around. It won't take long; a little bit of focus and a little bit of awareness and a good stable foot position. Drive from both the heel and the big toe, don't put too much weight on the toe, don't put too much weight on the



heel. Keep that balance. When you're on one foot, you need more control so you want to feel that whole footprint on the ground, but don't let the knee drift in. Think about maintaining that knee out over about the fourth or fifth toe, remember in this position the knee is very protected.

I hope this has helped in giving you some food for thought as well as some things to practice in your own training before you try on someone else. I don't think I ever talk about or even try an exercise on anyone else, that I don't have two or three weeks of playing with it myself first. I've got to become an expert on that new lift because I've got to feel it, I've got to see it and I've got to realize how I feel the next day when I do it. I hope you do the same.

If you want more information about dead lifting and learning to incorporate dead lifting with a very client base, please look at, "Secrets of the Core--The Backside". That's a DVD that Brett Jones and I did, and it basically focuses on the dead lift. It shows you how to first screen, then how you train, develop, and finally how you pattern a dead lift. So once, two, three times a week, you've got the best strength move on the planet to keep metabolism up, muscles hard, bone density where you need it. It also provides a simple way to look at a functional representation of both strength and stability between the left and right hip, which is a big thing, we all overlook. A lot of the reasons that the core is not dialed in is because it's trying to compensate and make up for the asymmetry between the two hips. The hips are the powerhouse of the body; if their not putting out equal power, you make for it in the core. This will typically translate into micro-trauma, or sets you up for an injury.

## WORK OUT SUGGESTIONS

For functional hip strength:

Get two Kettlebells that you can do a single leg dead lift of between two and four repetitions. If you are equal, do three sets of about two to four, between the left and right side, alternating. Instead of changing weight, create a package where you do your first set for four repetitions, and remember, set the weight down each time. Your second set for three repetitions and your third set for two. If you lose balance, the rep does not count. If you cannot pull the Kettlebells off the floor, elevate them to an appreciable height where you still get the work, but don't lose balance. If you have an asymmetry, switch to a package of one to four sets, or two to five sets, focusing mostly on the problematic side.

For functional stability:

Do a single arm, single leg dead lift that you can do for three to five repetitions. If you have an asymmetry, use that one-to-four/two-to-five ratio on the weaker side. If you don't have an asymmetry, set the weight down every time. You may use a slightly different height than you do with a two arm dead lift, and that's okay as well. Keep the weight the same and reduce your rep requirement if that helps. Requiring five repetitions on the first set, maybe three repetitions on the second set, two repetitions on the third set.

Try these packages and see how they do. You may be sore in a whole bunch of new places and that's okay.