

DVRT Restoration: Lateral Stability

It is important to note that any DVRT movement can be regressed just as it can be progressed. In DVRT we see movement in a much larger picture than a singular exercise.

When we think of “core stability” we tend to think of exercises like Front Planks, but once again, we mistake popularity versus effectiveness. Dr. McGill’s “Big 3” stabilizing exercises actually do not include a front, but rather side plank. That is often surprising, but when we look at the muscles that help create lateral stability we see why this becomes of such importance.

The primary muscles of lateral stability, the Quadratus Lumborum, Gluteus Medius, and Obliques are critical for two primary reasons. The ability to resist the frontal plane is often overlooked by many coaches. As Dr. McGill discusses the importance of lateral stability training and the impact.

“lateral musculature (quadratus lumborum and oblique abdominal wall) in a way never possible with a squat. Yet this creates necessary ability for any person who runs and cuts, carries a load, and so on. (1)”

What Dr. McGill is referencing is not just something we think as a “rehab” philosophy, but should be represented far into strength and performance programs. In fact, it might be more crucial for the development of real world fitness and strength. Dr. McGill gives a great reason why!



“Consider a 340 pound NFL lineman, who is strength trained in the weight room on Olympic lifts and power cleans. His coaches believe he is well trained. Yet the athlete has back pain that limits training. Measuring his cutting speed – the ability to take 5 fast strides forward, plant a foot and cut to the right reveals his great weakness and strength imbalance. The pelvis drops on the swing leg side and the spine bends laterally. He reports a twinge of pain. All of his strength training has been performed with two legs on the ground. All of the pulls, lifts and presses never trained the core in 3-dimensions. The weak link is limiting his performance and causing stress and pain. Addressing this with loaded carrying exercises produced more lateral spine stiffness in

his core. His pelvis and spine produce appropriate proximal stiffness (proximal to the hip joint) so that more velocity of all of the muscles that cross the hip joint works on the distal side of the joint resulting in faster leg speed. Further, the spine does not bend, the stress concentration at the joint is eliminated and the pain is gone. This example demonstrates that the hip muscles were limited by a weaker lateral core. Specifically, the gluteal muscles on the stance leg were confined by the lateral core muscles on the swing leg side of the body – in this case the lateral obliques and quadratus lumborum. Good training always addresses the elements that assist and potentiate one another throughout the body linkage. The core is home base for strength and speed.”

These requirements on lateral stability is why we need to both resist and move through the frontal plane. This is mentioned because there is carryover from all these drills to lateral stability, but these Side Plank progressions allow us to train it very specifically.

Understanding that lateral stability is a source of both strength and injury prevention is of great importance. Unfortunately, many see drills like those that will be described in this section as stability based movements. The truth is that like many exercises we value in DVRT, they are a combination of strength AND stability. We emphasize this importance because this is HOW the body is designed to function. Our bodies do not have just a strength, just a stability, just a mobility side of its movements. It is the carefully interwoven combination of all these elements that allow for more powerful, efficient, and safe movements. In order to illustrate this point, listen to scientist Scott Nadler explain the connection of the core and pelvis and why we are giving such priority to this training.

“The hip abductor functions in midstance to stabilize the pelvis, preventing a downward inclination (Trendelenburg sign) during single leg stance. In the face of hip abduction weakness, increased muscular requirements of the lateral trunk stabilizers (i.e., quadratus lumborum) are necessary in order to better stabilize the pelvis. In light of issues of lateral dominance and an understanding of the kinesiology of pelvic and trunk musculature, increased abductor strength on the left side may theoretically help to prevent low back occurrence. (2)”

Is this rehab? Yes! Is this going to be performance training? Yes! Is it strength? Yes! Is it smart training that is teaching your body to work smarter so that you can perform at a higher level, be less likely to experience injury, and recover from those aches/pains that seem to plague even your best intended fitness programs? YES!!

Building Side Plank: [Watch HERE](#)

While most do use a side plank, the progressions are usually a bit lost and the programming often lack luster. One of the most important keys in performing the side plank is to understand the role of full hip extension and keeping the body in singular alignment, avoiding flexion in both the hips and trunk.

Far too many are often hesitant to start the Side Plank variations in more foundational movements, especially cutting down the lever arm of the entire body to build good movement patterns.

From Knees:

Working from the knees gives us an opportunity to work from a more stable base. That means we can correctly assess and manage compensations in lateral stability. In any of these progressions we will always have the hips fully extended and the elbow underneath the shoulder to help activate the lat to help stabilize the shoulder.



The most obvious progression to our side planks are moving to a more straight leg position. This obviously increases the lever arm and demand on lateral stability. The progressions would mirror those from the kneeling posture.

Working from the knees can come in two versions. One where the hips are more flexed (easier) and where the hips are in more extension (more challenging). Therefore, there are really two levels of being on the knees.

Side Plank with Row Progressions

The question will probably arise whether or not one should hold the top position or move the hips up and down. While EMG studies will actually show more core activation during movement of the hips, due to the fact strength endurance is more correlated to low back health than strength, we will use the holds as a progression. One should be able to hold the the side plank progressions for a minimum of one minute.

Even though the goal is to have the client hold the side plank for one minute, the training should be a bit different. Repetitions should be increased before time. For example, it should be the goal of the client to perform as many good repetitions as possible with a 10 second hold. If that means five repetitions that would be the baseline and increasing the repetitions would be the focus, not increasing the time. Once 20 repetitions are able to be performed we can increase the hold time by five seconds.



Often in side plank variations the side of the body in contact with the ground is the focus of the drill. Yet, we want to improve lateral stability of both sides if possible. We can do so if we create a need for the top side of the body to become more active. This is where our DVRT Restorations progressions will come into play.

It is important to know that this is not suppose to be a upper back dominate exercise, rather a means to specifically get the opposing side of the body to become more active in lateral stability. Therefore, a little load can go a long ways and we never want to compromise the integrity of the side plank movement.

Iso Pulls Side Plank: [Watch HERE](#)



While we showed you the body weight version only of the side plank first in the manual, we actually believe in using these DVRT progressions **FIRST** with your clients. Why? Much like the concepts we have already covered in DVRT Restoration, teaching clients how to create tension and activate their kinetic chains results in faster learning of the movements and a greater understanding of how to produce motion in the drills we are using.

Using the DVRT side plank progressions will probably mean that your client stays more time in the bent knee position. This is NOT a bad thing and you may even find yourself moving to more of our kneeling postures. The goal is to achieve specific outcomes in your training and using these drills to do so. JUST being able to survive or “get through” an exercise does not create the results we are aiming to achieve. Having the proper purpose and movement skills does and makes a simple looking drill extremely powerful!

The Arc

The row is more of an arc movement, not just up, not just back, the elbow must create an arcing trajectory to get in the right pattern. This will allow the lat to become active as well as once slack is taken out of the handle of the Ultimate Sandbag, activate the top end of the body’s lateral stability system.



We will work from the following progressions.

The goal of the following movement is to get the feeling of the increased load on the body. We will not be looking to lift the Ultimate Sandbag, but rather just take slack out of the suitcase handle. This is very similar to our progressions in the Bird Dog and Lateral Drag series. Creating proper tension once again enhances the performance of the body.

Just as in our other DVRT Restoration concepts, activating the lat and glute connection yields faster and better results. While most in the side plank ONLY focus on the lateral stability of the body, the reality is that we have multiple chains working at once. If we really want to see dramatic changes in movement and strength then we need to train these chains simultaneously and not one at a time.

By using the Iso Pull in the side plank we get the glute closest to the ground to become strong due to the Posterior Oblique System. At the SAME time we get the lateral chain of the QL, glute medius, and obliques to fire at a higher rate.

One thing you may notice in the pictures versus video is the idea of a fist versus palm down on the ground. This is key in developing tension into the ground and gaining greater stability. Either is appropriate for different reasons. The palm into the ground can be a useful cue to help people understand that they must activate the lat, not the shoulder in creating proper stability in the upper body and prevent unnecessary discomfort in the shoulder region.

If such a cue does not work, or the client is experiencing discomfort, a fist can be taught as well. Creating a fist does not get the ground interaction of the palm, but helps us create good tension through the upper body to make sure the client is not living off of their shoulder and uses their lat instead. The key is to use the cue that works best with your client!

Which is right? Which do you begin employing first? Neither is right or wrong, it is whichever provides the right positional cuing to your client. We would recommend that you begin with the palm into the ground and actively grip. If that does NOT provide the right alignment and posture then you will want to use the fist cue to make sure that we build a proper foundation before proceeding too much into the progressions.

Side Plank with Leg Lift/Band Resistance: [Watch Here](#)



DVRT principles are ALWAYS at the heart of every movement we perform. That is because they help guide us in our goal of incremental progressions and identifying as much about one's movement as possible. That means EVEN in the side plank variations we ask ourselves the foundational questions such, “how do we alter load and body positions?”

The answer to such a question comes in the form of starting to move the top leg of the side plank. This action most obviously destabilizes our side plank and creates a more challenging lever arm. However, it can be more important than “just making the exercise harder”, if we delve a bit deeper into what we are doing, how we are doing it, and what we are trying to achieve.

A Stronger Chain

Hopefully WHAT you see when we manipulate an exercise is also changing as you are going through DVRT Restoration. We say this as you SHOULD begin to see that by lifting the top leg of the side plank we are increasing the use of the glute that will work with the lat of the arm on the ground. Yes! We are increasing the strength of ALL the chains on BOTH sides of the body.

If true movement efficiency is our goal, then we should always be striving to incorporate more chains of the body. Of course as we make exercises harder and more complex the way we match this increased intensity is by teaching the body to use more of the systems available to it! That means strength is largely based on our ability to tap into the chains and use our body as wisely as possible. Yet, to do so that means our exercises have to be designed to TEACH the body how to work smarter, not just harder.

Lateral Stability

Glute maximus rules the world of glute training for the most part. When people speak about “glute exercises” they typically are talking predominately about glute maximus. This makes a lot of sense from a bodybuilding perspective because it is maximus that is the biggest of the gluteal muscles. However, from a functional perspective, this may be very misleading making people better.

Many studies have shown that issues with glute medius and minimus are more closely related to hip pain and injury than maximus (3,4) While the glute maximus IS important in helping stabilize the pelvis with the core, many will find that the medius and minimus far less developed and may have an even more profound role in strength development and injury resiliency.

As Nadler, et al, found, *“biomechanically, the hip extensors and abductors play a major role in all ambulatory activities, working synergistically to stabilize the pelvis and transfer forces from the lower extremities to the spine . Johnson observed that excessive hip slide, and sports that require high-speed rotation of the hip abductors, may predispose to low back injury.”*

In analyzing female and male college athletes, they noted, *“female athletes with weaker left abductors were significantly more likely to develop lower back pain. Conversely, female athletes with stronger left abductors were significantly less likely to develop lower back pain. Lateral dominance within the lower extremities may help to explain this finding.”*

That means that lateral stability of the hip HAS to be at LEAST the same level of priority as hip extension exercises. While all the glutes are active at the same time, we can place larger emphasis on the training and integration of these muscles with the chains through these DVRT Restoration progressions.

The goal of the side plank progressions with the addition of the hip movement and band tension should now be seen as far more important than making one work harder. This also means that attention HAS to be paid to the quality of movement the individual is performing. As we layer greater challenges and movement sophistication it becomes easier for the body to try to find compensation.

Which is First?

The reality is that even our DVRT system will not work EXACTLY the same for everyone. Does that mean the system doesn't work? Not at all. Rather, by having a system in place, a thought process, when a situation when someone does not respond to the progressions we are describing you can move to another movement that may more specifically address their needs.

The reason we bring this up is because the following progressions often lead people to ask, "which do I do first?" While we will provide you with what our experiences and logic offer, the body doesn't always respond to either so you may have to use the "art" of coaching to make your own decisions as well.

Do you add band tension or move the hip by itself first? Logic would tend to point us to the idea of moving the hip first. That tension (which is also load) requires greater strength and coordination to manage. Simple, slow, and controlled movements of the hip while both using the Iso Pull and Row variations can add a great amount of intensity to the side plank movement. You will want to watch for things such as.....



- Flexion of the hips*
- Collapse of stance shoulder*
- Lack of hip extension*
- Moving into lumbar extension*

Any one or multiple of these issues may rise as you add even slight movement. That is why you can introduce such movements with low volume sets of 5 repetitions or less. Once fatigue has hit the individual you can always move back to some of the more foundational patterns as we don't want to instill bad movement habits.

Is there a time where the band COULD be first? Sure, one of them is where people sometimes respond better with a bit more feedback in their movement. Just make sure to be aware of the range of motion you are asking them to achieve as well as the volume.

Band Considerations

People often get VERY ambitious when they move to these more challenging side plank variations. So there are keys you will want to be using when implementing another external load in the form of the band....

-Load: Begin with a VERY light band. You will find leverage, time under tension, and volume will catch up with the individual quickly!

-Placement: We don't have to vary the band tension itself, simply moving the band from above the knee down the body will increase the intensity of the drill. Start above the knees and if proficiency is established you can move down the chain.

Learning to make the side plank, just like the front plank, more integrated and dynamic will go along with helping our transfer to more functional activities.

Side Plank Row: [Watch HERE](#)

Just as we progressed the Iso Pull to Lateral Drag in Bird Dog, we will do something similar here with the side plank. Using the arc of a rowing action accomplishes both the goal of activating the lat/glute connection to a higher level as well as increasing the core activation during the side plank.

It is key to make sure to cue the arc rather than an upright row action. This is NOT a shoulder drill, but amplifying the power of the various kinetic chains. Such a movement is very small and precise, it isn't about rowing a lot of weight in the upper body as it is activation and challenging the chains.

What may happen to both coach and client is an overemphasis of the "pulling" of the weight upwards, rather than how it challenges the side plank. Any time we add load to any movement we are challenging one's ability to maintain the pattern under different conditions. That means if the row causes the lifter to alter head, neck, shoulder, or trunk position then it is probably either too heavy or too advanced. Again, don't be a rush to follow through different progressions.

Being able to work up to 10 reps of 10 second holds of the Iso Pull variation is a great baseline to shoot for with clients.

The row is both to challenge and enhance the side plank effect. If we do look at the side plank as it is traditionally done you will notice a lack of attention to the actual chains of the body. Providing true lateral stability means pulling in ALL chains of the body as that is how our body actually functions.



As you can see from the following pictures and the progressions we will follow, the Side Plank Row can go from foundational to rather advanced strategies. Perfect to easily adjust for any fitness level without having to make drastic changes to the load of the Ultimate Sandbag itself.



It is worth discussing briefly if using the Ultimate Sandbag offers any unique benefit to a dumbbell, kettlebell, or even a band? Having the load further away from where the lifter grabs the weight does bring in more core activation because it creates a “drag” away from the lifter as they perform the row. This will make any weight in the Ultimate Sandbag feel heavier than its iron relatives.

As far as a band is concerned, bands work creating the greatest tension at the end of the range of motion. What makes this such a great exercise is there is a consistent bridge to the Iso Pull. When we first create tension into the handle we begin to create core stability. That helps us establish a stronger foundation for the drill to be performed without compensation to the movement.

Having such discussions is important for us at DVRT. There will be times in training where the Ultimate Sandbag is NOT the right tool. That is why taking time to explain the unique benefits is important. As coaches and even fitness enthusiasts we should strive to have a better understanding of the impact of using different methods, programs, exercises, and tools have on the results of our program.

We must also note that the pictures above do not demonstrate the progression we would follow. It is a rather large jump between the two movements even though they look very similar. Below we will continue to outline how we build greater success and keep getting more out of the side plank variations in DVRT Restoration. However, remember, if something is beyond your or your clients’ capability simple walk back a step. Spend more time on building the movement before and you will start to appreciate the simplicity and power of having a system versus a large grouping of unrelated exercises.

Combining Hip Movement and Rowing: [Watch Here](#)

It doesn’t make a lot of sense to spend a great deal of time explaining why we are combining the elements of the lower body and the row of the upper body. What DOES need to be reinforced is the fact that this is a VERY challenging drill and watching for the many compensations of the movement need special attention. Remember, people will always try to find stability when they feel unstable. Providing people proper cuing is important, but if that does not work, they may need to spend more time in building up to these movements!



Using Leverage as Intensity: [Watch Here](#)

One of the toughest aspects of using body weight training as a means of increasing intensity is the aspect of measuring what intensity it is providing. Unlike free weights where we can easily track load, it is often much more complex to know what changing leverage of the body causes in increased perceived load. That is why changing to a more difficult body position is much later in our series than it may appear in other programs.

We also don't people to simply survive the drill they are performing, but rather thrive. Learning specific skills is important in building more successful progression which is unlike how many fitness programs approach their systems. Far too many times, we just see someone doing "well" at a movement, so we make some advancement in the training. Without clear vision of where we are going with the training or what we want them to learn from the movement we are not setting the individual in a position to succeed.

Taking time to once again, have such a discussion is important as the desire to provide variety and novelty can sometimes overwhelm the coach. Empowering you with knowledge instead of simply exercises allows you to effectively educate your client and increase not only your value as the coach, but the programs you provide as well.



Time has also shown us that people see an exercise in a singular manner and have a difficult time regressing or progressing it systematically. After all, coaches are VERY careful how they walk people through squats, get-ups, cleans, and a host of other movements, but those like side planks unexplainably get just thrown together without much rhyme or reason.

Extending the body into the more popular side plank variation does take a hold of the “body position” variable. As you can see we took our time really exploring that variable fully and combined it with the load position concept as well. All this “prep” time is important as it will make transitioning to these extended positions more reasonable for your client.



Rowing the Ultimate Sandbag would be the next level as it reinforces the core, glute, lat connection while watching for flexion and rotation in the body.

What may stand out to some is the placement of the feet. Many times the extended side plank is performed with one leg on top of the other. This would not be inherently “wrong”, but rather an advancement. When both feet are in contact with the ground, both feet can be used and greater activation can be sent up the body’s chain. Since the leverage is significantly greater in a lengthened position, using strategies to help bridge that gap is very useful. Attention should be given though to using the side of the foot and not trying to plant the foot flat.

Using the Side Plank

It isn’t the sexiest exercise around, but its impact upon those drills we love to use is rather profound. You will find unlikely that anyone will ask you your best side plank, or your max on a

Moving the leg in abduction would allow another level. However, make sure you move back to an Iso Pull as an advancement in one area requires awareness of the other aspect of the body.

side plank. Yet, it can be the key in unlocking strength in so many different areas of performance and injury resiliency.

Some of our greatest success in helping people improve their functional strength wasn’t through developing the big lifts like squats, presses, or deadlifts. Rather, by focusing on the “holes” people possessed. There may be no bigger weakness in so many people than in lateral stability.

That is why using some form of the side plank in every program (not necessarily workout) is going to build that weakness into a strength. So many issues from lack of power production to low back issues can largely be traced back to lateral instabilities.

The goal isn’t to make side plank variations the cornerstone of a workout, but a very necessary foundational piece. Whether it is using the exercise in the beginning of the training session as an activation drill, or as a central exercise in your core routine. The purpose and intent of the progressions you choose will help determine how you program into your training.

References:

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