

Flexibility vs. Squats and Deadlifts

Any athlete who has trained to squat below parallel or who has attempted a maximum effort deadlift will know the meaning of “flexibility vs. the squat and deadlift”. While it may be true that strength athletes, powerlifters in particular, do not require the flexibility of gymnasts or figure skaters, they do need to have the necessary flexibility to avoid putting (additional) abnormal stress on their bodies. It has been said that an athlete only needs to be as flexible as the sport demands. Alright, let’s look at the demands of these two lifts.

In order to safely and efficiently squat to below parallel the lifter need to be able to “sit” back and down to the point that the hip joint reaches a position below the knee joint. In addition, the lift must start and end with the hips in a neutral position (zero degrees, or there about). Tight hamstrings will pull in the pelvis from the attachment near the ischium. The result is a rounding of the low back at the bottom of the squat. Not only is this not a position of strength but it is also dangerous for the lumbar spine as the normal lordosis is reversed putting severe stress on the discs, ligaments, tendons and muscle of the spine. In addition, tight hip flexors create a biomechanical disadvantage in assuming the required fully erect posture. Tight hip flexors (specifically the iliopsoas) pull anteriorly on the lumbar spine contributing to an increase in stress on these structures. If you add in tight adductors which will cause the knees to track inward, a tight illiotibial (ITB) band which can also inhibit normal knee and hip motion you have a recipe for injury as well as biomechanical disadvantage for maximum lifting efficiency. These same structures are involved in the deadlift. Without the necessary flexibility setting up for the initial pull will be difficult.

Stretching techniques fall into three areas. Ballistic stretching: the old bounce until you touch your toes programs have been discredited as potentially dangerous. Even in the best case, this will not improve your flexibility. In fact this technique has been shown to actually decrease flexibility as the body’s defensive reflex inhibits elongation of the stretched muscle. Basic stretching techniques that can help you maintain or improve your flexibility are Dynamic, Static and PNF (Proprioceptive Neuromuscular Facilitation). I will save discussion of PNF for another article as it takes some study and, in most cases a partner to perform effectively.

If you need to increase your range of motion around a joint you should include a specific stretching program in your weekly routine. These stretches should be static with a 20-60 second hold and performed after you are thoroughly warmed up i.e. after your work out or as a separate work out which is preceded by a warm up session. On the following pages I have included a number of variations static stretches for the low back, piriformis, hamstrings, quadriceps/hip flexors, adductors, and IT Band. In order to realize a lasting elongation effect

you will need to perform these stretches several times per week (at least) and continue indefinitely. Dynamic stretching is essentially the performance of the exercise movement through a full range with no weight or with light weight. Most of us use this technique in the early warm up sets. The movement should be controlled and through the full range of motion that is required to perform the exercise correctly. The initial Dynamic Stretches may not be through the full movement. It may take a number of sets and reps to warm up enough to complete the full range. That is okay. In fact you should reach that full range comfortably before you start adding weight to the bar. The same holds true for the deadlift.

There is some current research that supports the idea that static stretching prior to an exercise bout will actually decrease your ability to generate force. If you are a strength athlete you will not want to do anything to decrease the body's ability to generate force. My advice, then is to perform a general warm up for a few minutes (stationary bike, treadmill, calisthenics etc.), then perform your Dynamic Stretches for the exercise you are about to perform (don't neglect your shoulders prior to barbell squats!). As your dynamic stretching turns into full range squats (or deadlift) then and only then start adding weight to the bar progressing to your work sets. After you have completed your routine for the day you might then work on static stretching for any joints that lack sufficient flexibility.

There are a few things to watch for as clues to where you need to improve your range of motion. Have a training partner watch you from the side (are look in a mirror). If your low back rounds at the bottom of the squat or at the set up for the deadlift you probably have tight hamstrings. If you experience difficulty coming "out of the hole" or coming to a fully erect position at the completion of the lift you likely have tight hip flexors. If you feel "tightness" in your low back during or after your lifts it could be a sign of tight hamstrings and hip flexors. If your knee tends to "cave in" during either lift then tight adductors could be a problem. Does your butt feel achy or do you have numbness in your butt or down your leg? If so you likely have a tight piriformis muscle as well as a tight IT Band. Of course, difficulty with completing full range lifts can be related to poor technique, muscle imbalance , or weak muscles. However, lack of flexibility will only make these other issues worse. Take the time to plan and perform a stretching routine as part of your weekly training schedule. It will help you avoid injuries and improve your lifts!

If you are experiencing any severe or unusual symptoms, or if you have pain in your legs you need to seek professional advice.

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