

Back Extensions

The back extension exercise has led to much confusion. It is used very often as being synonymous with arching your back, doing hip extensions muscles or hyperextensions. Not only are many of the terms misleading but also how the exercise should be done to maximally strengthen the lower back.

For example, should the most effective lower back strengthening exercise be done on a back extension machine, a 45° bench, glute ham machine, flat bench, hyperextension machine or do you just have to do a squat or deadlift?

Examination of this exercise on these machines or in the exercises show that very few are effective. This is one of the main reasons why we continue to see so many back injuries in sports and in everyday life. Keep in mind that over 80% of the population experiences a back injury at one time or another.

More specifically, back extension machines do strengthen the lower back muscles in a dynamic manner as needed in sports and every day activities, but in an isometric contraction. The axis of rotation on these machines occurs in the hip joint so that when you do the exercise, the lower back muscles contract isometrically to hold the spinal position.

A similar thing happens when you do that squat and deadlift. For example, in the squat you must contract the lower back muscles isometrically to hold spinal posture as you do the squat. In the deadlift the axis is in the hip joint. In order to lift the weight on extended arms you must hold the spine in its neutral position throughout the execution. To do this to lower back muscles contract isometrically.

Understand that the main function of the erector spinae muscles is to extend and hyperextend the spine. Thus to strengthen these muscles you should begin with the spine in a flexed position and then extend (arch) the lumbar spine against gravity.

The only exercise that does this through the full range of motion is back extensions (back raise) done on the Yessis Glute Ham Back Machine. This machine allows for proper positioning of the spine for short as well as tall individuals. The axis of rotation in this exercise is in the waist which is where the flexion and extension of the lumbar spine takes place.

Many people confuse this exercise with the 45° bench back raise for lower back strengthening. But it too is ineffective because you cannot raise the torso up as high as possible against gravity since the erectors are no longer fully contracted. In essence, when you raise the torso on the 45° hyperextension bench you only work against gravity through a very short range of motion and not where it is most needed.

This is one of the main reasons why this exercise is not effective for fully strengthening the lower back muscles. It is only effective at the beginning range of motion. For maximum effectiveness you must begin with the trunk moving through a 90° or greater range of motion.

To compound the misinformation on lower back exercises even further, you are often told to avoid added tension on the back by not rounding it and then lifting up and arching backward. However, these are the actions that the erector spinae muscles are made for and responsible for! You must have a rounded back initially in order for the erector spinae to extend the spine to bring it into proper posture and slightly beyond.

This is the main reason why back extensions done on a Glute Ham Back Machine is most effective for strengthening the lumbar erector spinae muscles through the full range of motion. On the Yessis Glute Ham Back Machine and other Glute ham machines that have the adjustability for precise positioning,, it is also possible to do back raises with a twist or the Reverse Russian Twist, most effectively and safely. This exercise is needed for strengthening the ability to turn the shoulders backwards.