Isometric hip abduction using a Thera-band alters gluteus maximus muscle activity and the anterior pelvic tilt angle during bridging exercise.


What did the researchers do?

The researchers compared glute bridges with and without added isometric hip abduction to see whether there would be any difference in respect of gluteus maximus, hamstring, and erector spinae EMG activity, the ratio of gluteus maximus to hamstring EMG activity, the ratio of gluteus maximus to erector spinae EMG activity, and anterior pelvic tilt in healthy subjects. Both glute bridges were performed without external load. The glute bridge with isometric hip abduction was performed with a blue Thera-band wrapped around both thighs just proximal to the knees against which the subjects performed isometric hip abduction. Anterior pelvic tilt was measured by recording videos of the subjects performing the exercises and using image analysis software to measure the pelvic angle.
What happened?

The researchers found that gluteus maximus EMG activity was significantly greater (by 21%) while anterior pelvic tilt angle was significantly lower (also by 21%) in the glute bridge with isometric hip abduction compared to the glute bridge without the isometric hip abduction. However, there was no difference between the exercise variations in respect of hamstring or erector spinae EMG activity or in respect of the EMG activity ratios.

What did the researchers conclude?

The researchers concluded that performing glute bridges with isometric hip abduction against isometric elastic resistance can be used to increase gluteus maximus EMG activity and reduce anterior pelvic tilt during the exercise.

Article summary provided courtesy of the Strength and Conditioning Review service and WebExercises. Get a Free 30 day trial to the article review service by clicking here.