

Abstract

Objective: To quantify and compare the electromyographic activity of 10 muscles in three pullover exercises. **Methods:** 15 healthy men, with at least two years of experience in resistance training, executed in random order six repetitions with 60% of 1 Maximum Repetition for three different pullover exercises: lying on a step with a barbell, grip 100% biacromial (E1); lying on a step with a barbell, grip 150% (E2); lying on a Swiss ball with a barbell, grip 100% (E3). Surface electromyography was recorded from the Deltoideus (Clavicular and Spinalis Pars), Pectoralis Major (Clavicular and Sternocostalis Pars), Serratus Anterior, Triceps Brachii (Long Head), Latissimus Dorsi, Infraspinatus, Rectus Abdominis, Obliquus Internus Abdominis and Transversus Abdominis. The normalized Maximum Repetition electromyographic of each muscle was calculated for each exercise. **Results:** The most engaged muscles were Infraspinatus (51-53%) and Posterior Deltoid (49-51%). Surface electromyography activity was similar between the E1, E2 and E3 exercises. **Conclusions:** This study quantified muscular solicitation during pullover exercises performed with 60% Maximum Repetition. The muscles with higher level of activation were the Posterior Deltoid and the Infraspinatus, suggesting that pullover may be a valid option for strengthening the dynamic stabilizing muscles of shoulder joint in trained individuals. No significant differences in muscle electromyography intensity were observed when grip distance and trunk stabilization were altered, showing that these conditions do not influence muscle activation levels. However, the 1 Maximum Repetition was lower when the pullover was performed on a Swiss ball, suggesting that it is possible to obtain higher level of muscle recruitment with lower weights in unstable exercises.