DEPARTMENT:

Kinesiology

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PROJECT TITLE:

Comparison of EMG activity in the pectoralis major, anterior deltoid, and triceps brachii during the barbell and dumbbell bench press.

Abstract

Electromyography (EMG) is a technique for evaluating and recording the electrical activity produced by skeletal muscles. The EMG technology can be used to compare muscle activity during different resistance training exercises. **Purpose:** The purpose of this study is to compare EMG activity of the pectoralis major, anterior deltoid, and lateral head of the triceps brachii during a set of flat barbell bench press and flat dumbbell bench press. **Methods:** This study examines five Division II college football linemen lifting a weight that is 40% of their barbell bench press one rep max. EMG leads will be placed on the pectoralis major, anterior deltoid, and lateral triceps brachii. After performing their typical warm-up routine, the subjects will perform one set of six reps on barbell bench press, briefly rest, then one set of six reps on dumbbell bench press. **Hypothesis:** We hypothesize that more EMG activity will be observed in all muscles during the dumbbell bench press than in the barbell bench press.

Key Words: EMG, Barbell, Dumbbell, Bench Press, Pectoralis Major, Anterior Deltoid, Triceps Brachii.