# Article information:

Shoulder Muscle Activation of Novice and Resistance Trained Women during Variations of Dumbbell Press Exercises - PubMed
<https://pubmed.ncbi.nlm.nih.gov/26464884/>

# Article summary:

1. The study compared upper extremity surface electromyographical (EMG) activity between dumbbell bench, incline, and shoulder presses in novice and experienced female resistance trained individuals.

2. Shoulder press activation was significantly greater than incline press which in turn was significantly greater than bench press for the upper trapezius and anterior deltoid muscles.

3. Pectoralis major sternal activation during the bench and incline presses was significantly greater than during the shoulder press, while pectoralis major clavicular activation varied depending on the phase of the exercise. These results can inform exercise selection in resistance and rehabilitation programs.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article "Shoulder Muscle Activation of Novice and Resistance Trained Women during Variations of Dumbbell Press Exercises" compares the surface electromyographical (EMG) activity of upper extremity muscles during dumbbell bench, incline, and shoulder presses in novice and resistance trained women. The study found that for the upper trapezius and anterior deltoid muscles, shoulder press activation was significantly greater than incline press which in turn was significantly greater than bench press across both phases. However, the bench and incline presses promoted significantly greater pectoralis major sternal activation compared to the shoulder press.

While the study provides useful information for selecting exercises in resistance and rehabilitation programs, there are some potential biases and limitations to consider. Firstly, the sample size is relatively small with only 12 participants in each group. This may limit the generalizability of the findings to a larger population. Additionally, only female participants were included in this study, so it is unclear whether these findings would apply to male individuals.

Another potential limitation is that only surface EMG data were collected, which may not accurately reflect muscle activation deep within the tissue. Furthermore, while the study found significant differences between exercises for certain muscle groups, it did not investigate whether these differences translate into meaningful differences in strength or hypertrophy gains.

It is also important to note that this study only investigated three variations of dumbbell presses and did not compare them to other types of exercises such as barbell presses or machine-based exercises. Therefore, it is unclear how these findings would compare to other commonly used exercises.

Overall, while this study provides valuable insights into the muscle activation patterns associated with different variations of dumbbell presses in women, further research with larger sample sizes and more diverse populations is needed to fully understand how exercise selection impacts strength and hypertrophy gains.

# Topics for further research:

* Comparison of muscle activation patterns between dumbbell and barbell presses
* Gender differences in muscle activation during resistance training exercises
* The impact of exercise selection on strength and hypertrophy gains
* Deep tissue muscle activation measurement techniques
* Comparison of muscle activation patterns between free weight and machine-based exercises
* The role of muscle activation in injury prevention during resistance training

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