

How does bench angle affect upper body muscle activation during bench press exercise?

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Muscular activation during exercise is the key to developing muscle mass and strength and the bench press exercise is a popular and widely used method of building upper body strength. In the article "Influence of bench angle on upper extremity muscular activation during bench press exercise" published in the *European Journal of Sport Science*, the authors set out to discover the effects on muscle activation during free weight barbell bench press at 0°, 30°, 45° and -15° bench angles. If greater or lesser angles enhance muscle activation, the results can be used to plan successful upper body exercise programmes.

The authors' outcomes support the use of a horizontal bench press to attain activation of the upper and lower pectoralis major during the lift. However, interestingly it was found a bench incline of 30° or 45° resulted in increased muscle activation providing a useful insight into effective adaptations of bench press exercise for optimal strength and musculature. They conclude that "the present investigation demonstrate(s) the importance of considering the effects of [muscle activation](#) throughout different time points of the contraction/lift as variations may be evident...in an effort to optimise a resistance-training programme with the goal of improving muscle strength and development of the pectoralis major, it would be beneficial to include horizontal bench press and an incline bench of 30°."

For the study, 14 resistance trained participants undertook 2 training sessions; in the first session, participants were asked to complete 1 repetition maximum (RM). This was defined as one repetition of a horizontal barbell bench press with the greatest amount of weight. On the second session, fitted with electrodes to assess muscular activation, participants completed 6 repetitions for each of the 4 barbell press angles at a resistance

equivalent to 65% of the previous weight. Effects of bench condition were observed on the duration of muscle contraction and the contraction phase of the upper and lower pectoralis major, anterior deltoid and lateral triceps brachii.

More information: "Influence of bench angle on upper extremity muscular activation during bench press exercise" *European Journal of Sport Science*
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