Kurtoglu, Ahmet, et al, 2023 Abstract

Using sEMG To Determine Deltoid Muscle Activation In Bodybuilding Athletes

Objective
The study was carried out to determine the most accurate form of movement by bodybuilders to avoid shoulder injuries by using **surface electromyography** (**sEMG**) to determine the deltoid muscle activation of bodybuilders from different angles.

Results
As a result of statistical analysis, in male participants, mean deltoid **sEMG** values and maximum voluntary contraction (MVC) significantly decreased with decreasing angle size. In female participants, the average sEMG and MVC (%) values did not change at different angles.

According to the research results, shoulder **sEMG** activations decrease in direct proportion to the angle in bodybuilders. It is suggested that bodybuilders should consider the results of the study when performing exercises to hypertrophy the deltoid muscle.

Participants and Researchers
The study included 53 athletes (44 men, nine women) with an average age of 25.77 (±9.13 years).

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Methods
The athletes in the research regularly attended bodybuilding gyms. The deltoid activations of the participants was measured by **surface electromyography** (**sEMG**),using the **Neurotrac MyoPlus Pro** device (Verity Medical). Joint angles were determined with a goniometer.

Statistical analyses of the study were performed using the SPSS 25 package program. It was found that the data were normally distributed and the Repeated measures Anova test was applied for comparisons.

The full abstract can be found at
https://pubmed.ncbi.nlm.nih.gov/37900328/#:~:text=Conclusion%3A%20According%20to%20the%20research,medial%20deltoid%20muscle%20is%20highest