عنوان مقاله:

Modeling the Electromyogram Signal of Stimulated Biceps Brachii Muscle

نویسندگان:

Vahid Khadadadi - *Department of Biomedical Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Fereidoun Rahatabad - *Department of Biomedical Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Ali Sheikhani - *Department of Biomedical Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

Nader Jafarnia Dabanloo - *Engineering Research Center in Medicine and Biology, Science and Research Branch, Islamic Azad University, Tehran, Iran*

خلاصه مقاله:

Introduction: The usage of modeling methods has been proposed to achieve a better understanding of biological systems, so that some ambiguities about their function could be resolved. Accordingly, the present review was performed to model the electromyogram signal of stimulated biceps brachii muscle.Methods: In this review study, a search was performed in databases of Emerald, Cochrane Library, MEEDLINE, EMBASE, Wiley, Scopus, and Magiran on papers published over the past ۲۰ years. Papers that fulfilled all inclusion criteria were critically appraised in order to assess their quality. Out of the ۶۶ papers extracted, eight original papers were included. The findings obtained from the papers were noted, and then underwent content analysis and categorization.Results: Findings indicated that most of the performed studies had been modeled using cybernetic, robotic, regression, and neural network modeling methods. These physiological mathematical models model the physiological structure of the muscle based on a direct description of biomechanical, biological, and physiological characteristics of the system individually, which is difficult for obtaining many parameters.Conclusion: Most of the models presented so far do not match reality and have errors. Thus, studies are required to design a model similar to a biological system with the properties of biological systems in order to reduce the modeling error.

کلمات کلیدی:

Modeling, signal, Electromyogram, Biceps Brachii Muscle

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