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Sommario/riassunto

A complete overview of electromyography with contributions from
pacesetters in the field In recent years, insights from the field of
engineering have illuminated the vast potential of electromyography
(EMG) in biomedical technology. Featuring contributions from key

innovators working in the field today, Electromyography reveals the broad applications of EMG data in areas as diverse as neurology, ergonomics, exercise physiology, rehabilitation, movement analysis, biofeedback, and myoelectric control of prosthesis. Bridging the gap between engineering and physiology, this pioneering volume explains the essential concepts needed to detect, understand, process, and interpret EMG signals using non-invasive electrodes. Electromyography shows how engineering tools such as models and signal processing methods can greatly augment the insight provided by surface EMG signals. Topics covered include: . Basic physiology and biophysics of EMG generation. Needle and surface electrode detection techniques. Signal conditioning and processing issues. Single- and multi-channel techniques for information extraction. Development and application of physical models. Advanced signal processing techniques With its fresh engineering perspective, Electromyography offers physiologists, medical professionals, and students in biomedical engineering a new window into the far-reaching possibilities of this dynamic technology.