Collaborative Proposal

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Establishing a Protocol for Utilizing Indwelling Fine Wire Intramuscular Electromyography (EMG) Equipment in Rotator Cuff Muscles Assessment

This project aims to establish a standardized protocol for the effective utilization of fine wire intramuscular electromyography (EMG) equipment in assessing post-surgery rotator cuff muscle function. Led by PI Dr. Furmanek, an interdisciplinary team has been assembled, leveraging expertise in neurophysiology (Dr. Furmanek), musculoskeletal biomechanics (Dr. D'Andrea - Co-PI), and rehabilitation (Foster). Despite the availability of surface EMG in PI's Motor Control and Rehabilitation Lab, additional advanced equipment is needed and crucial to implement intramuscular EMG. The study's objective is to gain insights into specific rotator cuff functions post-surgery, particularly focusing on arthrogenic muscle inhibition and its impact on neuromuscular activity. Surface EMG, while valuable, is limited due to cross-talk from superficial muscles, highlighting the necessity of indwelling fine wire EMG for deeper muscles like the rotator cuff. The collected data will not only enhance understanding of upper extremity motor control but also serve as a foundation for future grant proposals (NIH) to secure extramural funding for continued research in this field.

Award: $25,000