Targeted Muscle Reinnervation: A Neural Interface for Artificial Limbs (Series in Medical Physics and Biomedical Engineering)

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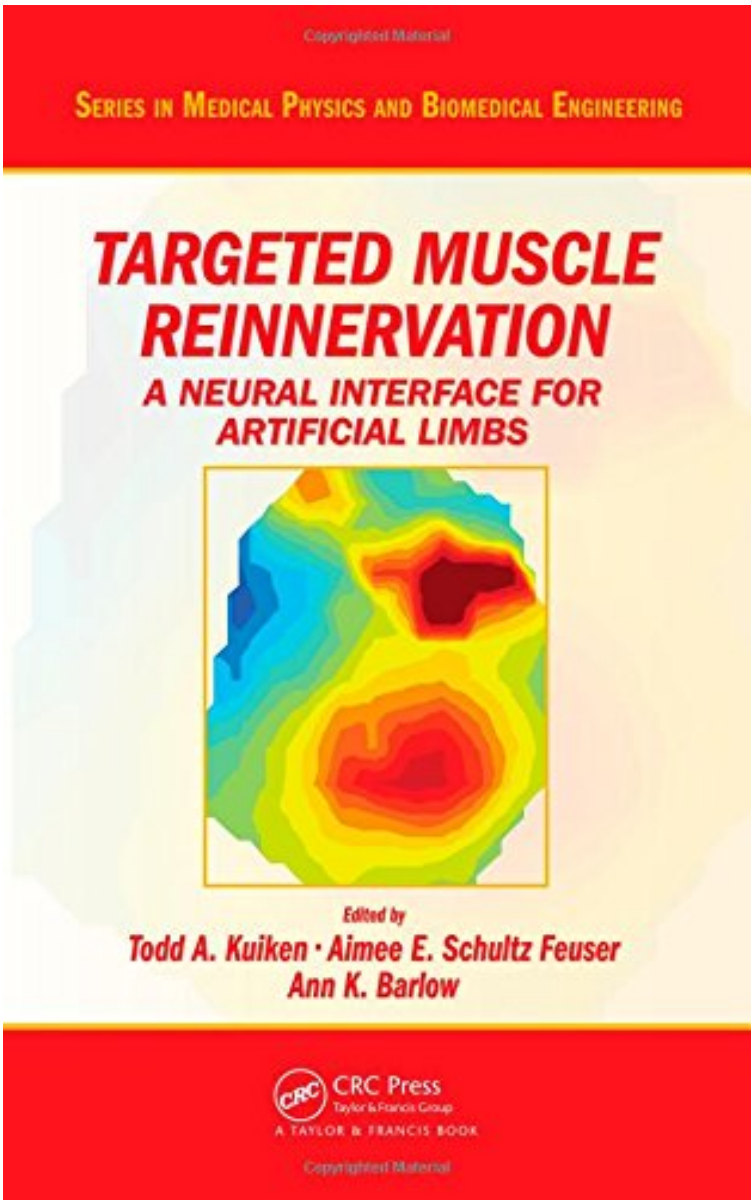

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From CRC Press : Targeted Muscle Reinnervation: A Neural Interface for Artificial Limbs (Series in Medical Physics and Biomedical Engineering) before purchasing it in order to gage whether or not it would be worth my time, and all praised Targeted Muscle Reinnervation: A Neural Interface for Artificial Limbs (Series in Medical

Physics and Biomedical Engineering):

Implement TMR with Your Patients and Improve Their Quality of Life Developed by Dr. Todd A. Kuiken and Dr. Gregory A. Dumanian, targeted muscle reinnervation (TMR) is a new approach to accessing motor control signals from peripheral nerves after amputation and providing sensory feedback to prosthesis users. This practical approach has many advantages over other neural-machine interfaces for the improved control of artificial limbs. Targeted Muscle Reinnervation: A Neural Interface for Artificial Limbs provides a template for the clinical implementation of TMR and a resource for further research in this new area of science. After describing the basic scientific concepts and key principles underlying TMR, the book presents surgical approaches to transhumeral and shoulder disarticulation amputations. It explores the possible role of TMR in the prevention and treatment of end-neuromas and details the principles of rehabilitation, prosthetic fitting, and occupational therapy for TMR patients. The book also describes transfer sensation and discusses the surgical and functional outcomes of the first several TMR patients. It concludes with emerging research on using TMR to further improve the function and quality of life for people with limb loss. With contributions from renowned leaders in the field, including Drs. Kuiken and Dumanian, this book is a useful guide to implementing TMR in patients with high-level upper limb amputations. It also supplies the foundation to enable improvements in TMR techniques and advances in prosthetic technology.

About the AuthorTodd A. Kuiken, MD, PhD, is the director of both the Center for Bionic Medicine and Amputee Services at the Rehabilitation Institute of Chicago, where he and his interdisciplinary team seek to understand and capitalize on the potential of TMR to provide improved prosthetic function. Dr. Kuiken is also a professor in the Departments of Physical Medicine and Rehabilitation, Surgery, and Biomedical Engineering at Northwestern University. An internationally respected clinician and research scientist, he has received many awards for his work on TMR. He earned a PhD in biomedical engineering and an MD from Northwestern University. Aimee E. Schultz Feuser, MS, is a freelance scientific writer and editor working with the Center for Bionic Medicine. She has authored and coauthored several journal articles on targeted sensory reinnervation and prosthetics. She earned an MS in mechanical engineering from Northwestern University. Ann K. Barlow, PhD, is a scientific writer at the Center for Bionic Medicine, where she works on manuscript editing and grant development. She earned a PhD in molecular microbiology from the University of Southampton.