Restorative Neurology of Spinal Cord Injury

Edited by Milan R. Dimitrijevic, Byron A. Kakulas, Gerta Vrbova and W. Barry McKay

Following injury or disease, neural circuitry can be altered to varying degrees leading to highly individualized characteristics that may or may not resemble original function. In addition, lost or partially damaged circuits and the effects of biological recovery processes coupled with learned compensatory strategies create a new neuroanatomy with capabilities that are often not functional or may interfere with daily life. To date, the majority of approaches used to treat neurological dysfunction have focused on the replacement of lost or damaged function, usually through the suppression of surviving neural activity and the application of mechanical assistive devices.. *Restorative Neurology of Spinal Cord Injury* offers a different and novel approach.

Focusing on the spinal cord and its role in motor control, the book details the clinical and neurophysiological assessment process and methods developed throughout the past half century by basic and clinical scientists. Then, through the use of specialized clinical and neurophysiological testing methods, conduction and processing performed within the surviving neural circuitry is examined and characterized in detail. Based on the results of such assessment, treatment strategies, also described in this book, are applied to augment, rather than replace, the performance of surviving neural circuitry and improve the functional capacity of people who have experienced injury to their spinal cords

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