Book review

Nerve Injury and Repair

by Göran Lundborg
Churchill Livingstone, Edinburgh and New York, 1988, 222 pages.

In *Nerve Injury and Repair*, Göran Lundborg demonstrates how fundamental research can be related to the care of patients with nerve injuries by way of "a direct biological approach." The book, with its penetrating analyses of current research in anatomy, physiology, and biochemistry, more than fulfills its goals of providing hand surgeons, orthopaedic surgeons, plastic surgeons, and neurologists, as well as physiologists wanting more information on the clinical realities, a current perspective on the most significant challenges in this field.

Lundborg, in a dedicated and scholarly manner, has compiled a well-referenced account of current developments in neural compression and regeneration research. While the chapters on cell biology, anatomy and physiology of the nerve trunk, and compression and stretching effects on nerves are well focused, carefully written, and beautifully illustrated, the chapter entitled "Nerve Regeneration" is exceptional. Virtually every significant issue is covered — from changes associated with distal nerve stump degeneration and restoration of normal endoneural environment to alterations in connective tissue following distal nerve stump degeneration; from the ultimate fate of the denervated bands of Büngner to factors affecting the interstump gap, including summaries of the author's own research using regeneration chambers. These areas are related in such a thoughtful, succinct, and well-organized manner that it is virtually impossible not to become enthusiastic about this text. The book as a whole is the most readable and accurate brief account of the current developments surrounding nerve injury I have encountered in many years.

Are there any shortcomings? Perhaps, just one. While the author often presents his own judgement on the results of studies that are in conflict, occasionally he leaves the reader wondering. For instance, he presents compelling scientific evidence for selective predegeneration of distal nerve segments and selective conditioning of the proximal system. He does this by describing the beneficial effects these techniques have on axons bridging the interstump gap. In the clinical section on timing of repair, however, he favors primary repair because of practical factors related to alignment, and prevention of nerve stump retraction. While there is little scientific support for the latter approach and no conclusive clinical evidence, it is the most commonly used method in current practice. Lundborg rarely experiences difficulties such as this in meshing science and clinical practice, however. It is with this unique approach relating science to practice, in fact, that he is so successful.

This is important scholarly work that deserves to be read by both clinicians and researchers having an interest in nerve problems. I predict that it will become quickly a standard reference in the field.

Richard H. Gelberman
Harvard Medical School
Hand Surgery Service
Department of Orthopedics
Massachusetts General Hospital
Boston, USA