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principles of Neurological Surgery

third edition



Principles of Neurological Surgery Third Edition



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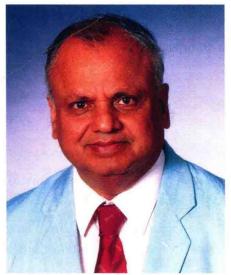
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IN MEMORIUM

CHRISTOPHER C. GETCH, MD (1961-2012) SETTI S. RENGACHARY, MD (1937-2008)

They floated through our lives for far too short a time. Professors Getch and Rengachary were renowned neurological surgeons, husbands, fathers, and mentors. These leaders taught using the tools of inspiration and patience. They operated with skill and compassion. And they brought happiness to all whose lives they touched. They remain heroes to their patients and role models to their students. They were forces of light and kindness in our field, and as our friends, made us better. We shall miss their intellect, humor, and gentle spirits. They shall forever remain as beacons of what the best of our field can bring to those we serve. We dedicate this edition to them.

"Concern for man and his fate must always form the chief interest of all technical endeavors. Never forget this in the midst of your diagrams and equations." Albert Einstein

To the loves of my life: Sandy, Rachel, Paul, and Zachary...thank you for my happiness and your great humor!

Richard G. Ellenbogen, MD, FACS

I dedicate this book to my patients for placing their deepest trust in us, as there is no higher trust than to place their lives in the hands of others. This trust represents our most seminal obligation.

I dedicate this book to my students, residents, and fellows, as there is no higher achievement than to see those whom we mentor go on to become compassionate and technically exceptional neurosurgeons.

Saleem I. Abdulrauf, MD, FAANS, FACS

I dedicate the book to my wife, Gordana, and my children, Raja, Daniela, and Krishna.

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Preface

Concern for man and his fate must always form the chief interest of all technical endeavors... Never forget this in the midst of your diagrams and equations.

Albert Einstein

Principles of Neurological Surgery is in its third edition because of the popular demand of our students. As I walk through the hospital and operating room, I am thrilled to see the previous editions being read by medical students, house officers, nurses, and practicing neurosurgeons. It is for these treasured students, young and old, novice and experienced, that this book is intended. It is to be used to guide both those learning and those teaching. We are indebted to our students for inspiring us to perform at our best every day, for in the operating room our best is required by our patients all the time. At the end of the day, we hope this edition contributes to the modest goal of shaping more effective clinicians, ultimately for the benefit of our patients.

The world of medical education has evolved rapidly, and our students do not necessarily learn in the same manner we once learned. We have listened carefully to their constructive comments and re-created a book that addresses their individual approach to learning basic neurological surgery principles. Scientific information is growing at an exponential rate. Thus, mastering the wide spectrum of neurological surgery is arguably even more challenging for the current generation of students than it was for our generation. A host of excellent encyclopedic neurological surgery reference texts currently are available. Our work is intended to be comprehensive without being encyclopedic. We hope it could be the sort of tool that students can use every day of their training and then carry into practice. We realize that the internet and searchable peer-reviewed literature have often supplanted multivolume collections. So we took a different approach with this text. It is our goal to make the complex and broad spectrum of neurological surgery more comprehensible by reviewing the surgical principles in a concisely written, template-oriented, and visually attractive format. The text is purposely designed to fit in a single volume so that the information is digestible and can be successfully reinforced with subsequent review. The chapter topics represent both basic core areas and novel subject matter in our rapidly evolving field. The authors have added CLINICAL PEARLS to their chapters that sum up the critical bullet points of the chapters. The chapters are further supplemented with five SELECTED KEY REFERENCES from the bibliography, which the authors believe are worthy of in-depth investigation. Furthermore, we have listened to our students' desire for visual reinforcement and simulation to master psychomotor skills in the operating room. For that reason, we have added video clips for key operations in this textbook. They can be downloaded from the Elsevier website and reviewed at any time from any location by those who desire to augment their understanding of the material.

In the third edition, I was fortunate to be joined by two exceptional neurological surgery talents: Professors Sekhar and Abdulrauf. These two professors possess a keen eye for the critical elements of our field. They are internationally recognized as master educators, as well as technical virtuosos. Of course, the success of this book truly rests upon a team of world class contributing scholars, known for their specific expertise. Therefore the third edition enlisted new contributions from these internationally renowned neurosurgeons. The text by these authors was then combined with the work of highly skilled artists employing cutting-edge art technology. The entire project was then overseen by a patient and experienced Elsevier editing team.

I am deeply grateful to the authors, artists, and editors for the precious time and hard work invested in this third edition. They created a book with extraordinary visual appeal, containing accurate, evidence-based explanations, beautiful color illustrations, simple tables, illustrative photographs, and video highlights. It is our hope that this approach will be substantive, long lived, and enjoyable for our readers and beneficial to our patients.

Richard G. Ellenbogen

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