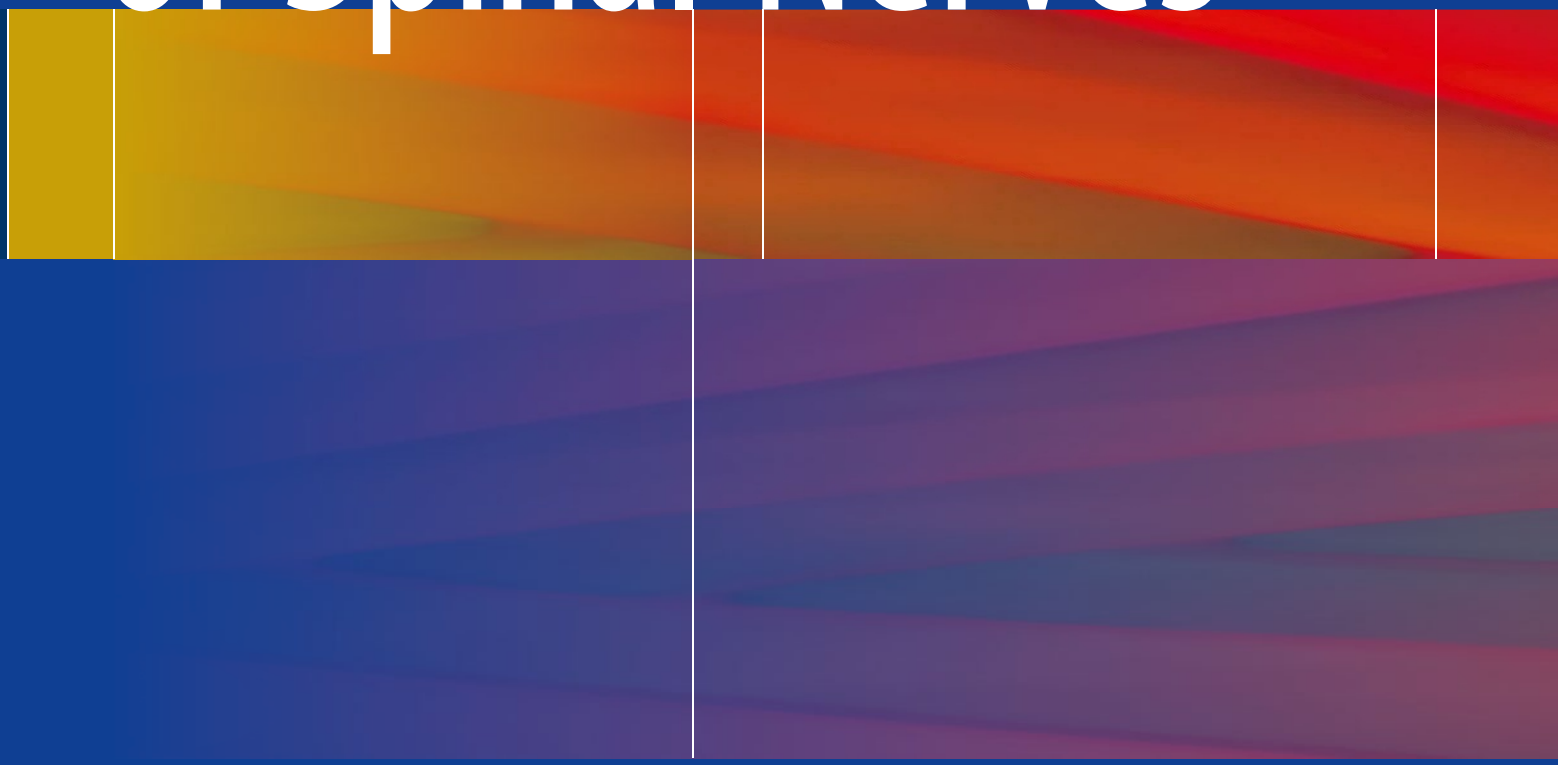
Amgad S. Hanna

# Anatomy and Exposures of Spinal Nerves




Springer

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Illustrations by Mark Ehlers, BS

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*This book is dedicated to my wife Linda for all her support throughout my career*
*To my parents*
*To my daughters Barbara, Krista, and Cielle*
*To my teachers*

# Foreword

Most physicians' understanding of the anatomy of the spinal or peripheral nerves is limited throughout the fields of medicine, in spite of that system's exquisite importance to normal function. Often this is the result of a lack of experience with the pathology involved or impractical training methods. The functionality of these nerves for qualities of occupation, ambulation, and eye-hand coordination, to name but a few, deserve better. Traditional teaching techniques lack the organization that would enhance understanding and familiarity.

In this volume, Hanna and Ehlers provide a straightforward approach to the surgical anatomy of the spinal nerves by emphasizing the steps of surgery and the actual structures that are seen. Their approach is concise and practical. It emphasizes a surgeon's view of the anatomy in a step-by-step pattern that facilitates understanding of the surrounding musculature, vasculature, and their location and importance. By working through each of the major surgical nerves they cover most clinical scenarios. This makes the book invaluable for students attempting to understand the practical implications of this system or surgeons efficiently studying their work and building on this platform to improve surgical techniques. The practicality of this book is obvious in that it serves the surgeons in an anatomically based fashion through a practical rather than cadaveric approach. It is a welcome addition to literature, and, in a concise fashion, thoroughly covers the topic. The authors are to be congratulated for this contribution.

*Robert J. Dempsey, MD, FACS*
*Department of Neurological Surgery, University of Wisconsin, USA*

Peripheral nerve anatomy is often a stumbling block for neurosurgeons preparing for board examinations or contemplating unusual cases. Outside of academic centers, limited volume and sub-specialization in other fields limits the exposure of neurosurgeons to these types of cases. Traditional resources for trainees and those wishing to "brush up" on peripheral nerve cases consist of anatomic textbooks, which largely rely on traditional anatomic exposures to illustrate the structures of interest. These "anatomical" exposures are not always directly relevant to surgical exposures, which in general are less extensile in order to minimize morbidity.

Hanna and Ehlers have provided a concise and useful text for the study of practical peripheral nerve anatomy. This work differs from traditional texts in that the approach is surgically based. The chapters are geared towards answering two or three questions per topic: What anatomy do you see? When do you see it? How do you get there? The text is limited to stripped-down bullet points, which make it an efficient way to review for board examinations or bone up on a case the night before. Ample illustrations and supplemental video aid the learner by providing the same information in multiple formats. This work will be a useful addition to the library of neurosurgeons who perform peripheral nerve cases on occasion and for trainees who are preparing for upcoming cases or for board examination.

*Daniel K. Resnick, MD MS*
*Department of Neurological Surgery, University of Wisconsin, USA*

# Preface

Mark Ehlers (*left*, *black scrubs*) and Amgad S. Hanna (*right*, *blue scrubs*) during one of the dissection sessions. This project took about 2 years. Amgad S. Hanna did all the dissections and authored the book; Mark Ehlers did all the video recordings and editing, as well as some photo shoots and editing

This book was mainly inspired by deficiencies in most neurosurgery training programs in the field of peripheral nerves. I prefer the term "spinal nerves" as they contrast to cranial nerves. There is a huge gap between the knowledge requirements and what we actually teach. Simplicity was key in writing this book. I intended to avoid the sophistication of textbooks, and burdening you with lots of references. Each chapter is 1–2 pages of text and plenty of figures. There are video recordings for each described approach. Most of the videos are less than 5 min long. The goal is to be able to review each topic in less than 10 min. Whether you are a resident studying for written boards, a junior faculty studying for oral boards, or getting ready for a case that you haven't seen for years, this book should provide you with easy information, and ample illustrations, concise enough to match your busy schedule. The axial cuts and their MRI correlates are unique and will be extremely helpful not only to the spinal nerve surgeon but also to radiologists. I hope you will enjoy going through the material of this book.

Amgad S. Hanna, MD

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