

Postoperative Complications of Extracranial Neurological Surgery

**NORMAN H. HORWITZ
HUGO V. RIZZOLI**

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Edited by

NORMAN H. HORWITZ, M.D.

NOT FOR RESALE

Clinical Professor of Neurological Surgery
The George Washington University School of Medicine
Senior Attending Neurosurgeon, Washington Hospital Center
Washington, D.C.

HUGO V. RIZZOLI, M.D.

Professor and Chairman, Department of Neurological Surgery
The George Washington University School of Medicine
Senior Attending Neurosurgeon, Washington Hospital Center
Washington, D.C.



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Postoperative Complications of Extracranial Neurological Surgery

Edited by
IRVING H. HORWITZ, M.D.

Professor of Neurological Surgery,
Department of Neurological Surgery,
University of California, Los Angeles, California

PAOLO V. RIZZOLI, M.D.

Associate Professor, Department of Neurological Surgery,
University of California, Los Angeles, California



WILLIAMS & WILKINS
PUBLISHERS

Preface

To the scores of neurosurgical residents, past and present, whose dedicated and enthusiastic participation in the training program has served as a continuing stimulus to complete this project.



Preface

When a new edition of a book appears, the authors are often at pains to justify the event. This is no exception. Twenty years ago, Williams & Wilkins issued *Postoperative Complications in Neurosurgical Practice*. In 1982, *Postoperative Complications of Intracranial Neurological Surgery* was produced in response to the need for revision, particularly in the light of the impact on contemporary practice of computed tomography (CT) scans and microsurgical techniques.

With the publication of this companion volume, devoted to extracranial procedures, the divided task is completed. There are new benchmarks for operative success being established by which future outcome analyses will have to be judged. A recent and highly significant development in the field has been the emphasis on subspecialization. In many

urban university centers and institutions of international reputation, the trend has become pervasive. Pediatric practice is a striking example.

As a consequence, it seemed appropriate to invite multiauthor participation to bring the highest level of expertise to the important subject of postsurgical complications. It is our hope that the reader will share our enthusiasm for the quality of the presentations of the authoritative contributors who have joined us in this endeavor.

We gratefully acknowledge the help of Sheri Henderson and Jon Randall in the preparation of the manuscript.

Norman H. Horwitz, M.D.
Hugo V. Rizzoli, M.D.
Washington, D.C.

Contributors

D. Barba, M.D.

Clinical Research Fellow
The University of Western Ontario
London, Ontario, Canada

David O. Davis, M.D.

Professor of Radiology, Neurology, and
Neurological Surgery
The George Washington University Medical
Center
Washington, D.C.

Michael J. Ebersold, M.D.

Assistant Professor
Department of Neurological Surgery
Mayo Clinic
Rochester, Minnesota

Allan H. Friedman, M.D.

Assistant Professor
Division of Neurological Surgery
Department of Surgery
Duke University Medical Center
Durham, North Carolina

Norman H. Horwitz, M.D.

Clinical Professor of Neurological Surgery
The George Washington University School
of Medicine
Senior Attending Neurosurgeon
Washington Hospital Center
Washington, D.C.

Alan R. Hudson, M.D.

Professor and Chairman
Division of Neurological Surgery
University of Toronto
Toronto, Ontario, Canada

David G. Kline, M.D.

Professor and Chairman
Department of Neurological Surgery
Louisiana State University
New Orleans, Louisiana

Sanford J. Larson, M.D., Ph.D.

Professor and Chairman
Department of Neurological Surgery
Medical College of Wisconsin
Milwaukee, Wisconsin

Susan E. Mackinnon, M.D.

Assistant Professor
Division of Plastic Surgery
University of Toronto
Toronto, Ontario, Canada

Leonard I. Malis, M.D.

Professor and Chairman
Department of Neurological Surgery
Mt. Sinai Medical Center
New York, New York

W. Richard Marsh, M.D.

Assistant Professor
Department of Neurological Surgery
Mayo Clinic
Rochester, Minnesota

David C. McCullough, M.D. Chairman

Department of Neurological Surgery
Children's Hospital National Medical
Center
Professor of Neurological Surgery
The George Washington University Medical
Center
Washington, D.C.

J. Mukherjee, Ph.D.

Statistician
McMaster University
Hamilton, Ontario, Canada

Blaine S. Nashold, Jr., M.D.

Professor of Neurological Surgery
Duke University Medical Center
Durham, North Carolina

Burton M. Onofrio, M.D.

Professor of Neurological Surgery
Mayo Clinic
Rochester, Minnesota

S.J. Peerless, M.D.

C.J. Drake Professor of Neurological
Surgery, Chairman
Division of Neurological Surgery
The University of Western Ontario
London, Ontario, Canada

David G. Piegras, M.D.

Associate Professor of Neurological Surgery
Mayo Clinic
Rochester, Minnesota

Hugo V. Rizzoli, M.D.

Professor and Chairman
Department of Neurological Surgery
The George Washington University School
of Medicine
Senior Attending Neurosurgeon
Washington Hospital Center
Washington, D.C.

Frederick A. Simeone, M.D.

Professor of Neurosurgery
University of Pennsylvania School of
Medicine, Head
Section of Neurological Surgery
Pennsylvania Hospital
Philadelphia, Pennsylvania

Thoralf M. Sundt, Jr., M.D.

Chairman and Professor
Department of Neurological Surgery
Mayo Clinic
Rochester, Minnesota

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PART ONE

Spinal Surgery

Norman H. ...
Hugh M. ...

CHAPTER 1

Laminectomy: General Complications

Norman H. Horwitz, M.D.
Hugo V. Rizzoli, M.D.



All surgical approaches to the spinal column and its neural contents, with the exception of percutaneous procedures entail some alteration in the normal anatomy irrespective of the direction of the attack: anterior, lateral, or posterior. Problems arising from the first two approaches are individual enough to be discussed in the context of the specific condition for which the operation is undertaken. The most common technique by far is laminectomy, the removal of some or all of the posterior elements (including spinous processes and portions of the facet joints) of one or more vertebral segments. Inasmuch as the practice is so widespread, an attempt will be made to analyze complications that may be encountered without regard to the pathology involved. Elaboration in a more detailed fashion will follow during the discussion of selected disease entities. Logic suggests that varied aspects of the procedure be scrutinized in sequence. With this in mind important elements will be looked at starting with the patient's arrival in the operating room, proceeding to intraoperative events and continuing into the immediate and distant postoperative period.

Neurological difficulties may be initiated during intubation for endotracheal anes-

thesia. Irrespective of the site of intended laminectomy, the presence of symptomatic cervical spondylosis with or without myelopathic features should alert the surgeon to be certain that the anesthesiologist is informed of this circumstance before induction. The unimpeded mobility of the stenotic cervical spine after drug-induced muscle paralysis may lead to cord compression when the neck is extended for insertion of the endotracheal tube. The neuroanesthesiologists in attendance upon our patients frequently resort to awake intubation and may use the endonasal route to avoid undue manipulation of the cervical spine. It is prudent to check the patient before surgery to determine the degree of extension that will be tolerated. DePalma and Rothman¹⁹ cite an instance of retropulsion of nuclear material during intubation in a patient harboring a herniated cervical disc. A permanent Brown-Sequard syndrome developed.

Successful intubation does not end the need for vigilance in protecting the cervical cord. In those individuals with incidental cervical spondylosis who are undergoing lumbar laminectomy in the prone posture, the positioning of the head after intubation is an important maneuver. Excessive extension or rotation of the head can lead to