Neurologic Differential Diagnosis

A Case-Based Approach

Edited by

Alan B. Ettinger, MD, MBA
Epilepsy Director, Neurological Surgery P.C., Rockville Center, New York; Director of the Epilepsy Wellness Program, Winthrop-University Hospital, Mineola, New York; Director of EEG and Epilepsy, Huntington Hospital; Huntington, New York; and Professor of Clinical Neurology, Albert Einstein College of Medicine, Bronx, New York, USA

Deborah M. Weisbrot, MD
Associate Professor of Clinical Psychiatry and Director, Child & Adolescent Psychiatry, Outpatient Clinic, Department of Psychiatry and Behavioral Sciences, Stony Brook University Medical Center; New York, USA
Every effort has been made in preparing this book to provide accurate and up-to-date information which is in accord with accepted standards and practice at the time of publication. Although case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the authors, editors and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this book. Readers are strongly advised to pay careful attention to information provided by the manufacturer of any drugs or equipment that they plan to use.
This book is dedicated to our sons, Joshua and Jonathan Ettinger, with love. They have been our greatest teachers along the journey of life.
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Contributors

Lenard A. Adler, MD
Professor of Psychiatry and Child and Adolescent Psychiatry, NYU School of Medicine, New York, NY, USA

Pinky Agarwal, MD
Attending Neurologist, Booth Gardner Parkinson’s Center at Evergreen Hospital, Kirkland, WA, USA

Rehan Ahmed, MD
Cullen Eye Institute, Baylor College of Medicine, Houston, TX, USA

Jagga Rao Alluri, MD
Clinical Neurophysiologist, ABK Neurological Associates, Forest Hills, NY, USA

Fawaz Al-Mufti, MD
Chief Resident, Department of Neurology, State University of New York at Stony Brook, Stony Brook University Medical Center, Stony Brook, NY, USA

Samuel Alperin, BS
Department of Psychiatry, NYU School of Medicine, and Mental Health Research Service, VA NY Harbor Healthcare System, New York, NY, USA

Michael Amoashiy, MD, PhD
Assistant Professor of Clinical Neurology, Weill Cornell Medical College, Brooklyn, NY, USA

Michael Andary, MD
Professor and Residency Program Director, Michigan State University College of Osteopathic Medicine Department of Physical Medicine and Rehabilitation, East Lansing, MI, USA

David J. Anschel, MD
Director, Comprehensive Epilepsy of Long Island, St Charles Hospital, Port Jefferson, NY, USA

Padmaja Aradhya, MD
Neurologist, Bethpage, NY, USA

Vandana Aspen, PhD
Postdoctoral Scholar, Stanford University, Stanford, CA, USA

Esther Baldinger, MD
Clinical Assistant Professor of Neurology, SUNY Downstate Medical Center, Brooklyn, NY, USA

Jee Bang, MD
Chief Resident, Department of Neurology, Johns Hopkins Hospital, Baltimore, MD, USA

George D. Baquis, MD
Head – Neuromuscular Section, Baystate Medical Center and Associate Clinical Professor of Neurology, Tufts University School of Medicine, Springfield, MA, USA

John J. Barry, MD
Professor of Neuropsychiatry and Behavioral Science, Stanford University Medical Center, Stanford, CA, USA

Jason J. S. Barton, MD, PhD, FRCPC
Professor, Departments of Ophthalmology and Visual Sciences, Medicine (Neurology), and Psychology, University of British Columbia, Vancouver, Canada

Julius Bazan, MD
Neurologist, Rockville Centre, NY, USA

Amanda R. Bedford, MA
University of Houston-Clear Lake, American Washington University College of Law, Houston, TX, USA

Marlene Behrmann, PhD
Professor, Department of Psychology and Center for the Neural Basis of Cognition, Carnegie Mellon University, Pittsburgh, PA, USA
List of contributors

Lourdes Bello-Espinosa, MD
Assistant Professor of Neurology and Pediatrics,
Stony Brook University, Stony Brook, NY, USA

Ajay Berdia, MD
Neurologist, Rochester, NY, USA

Alan R. Berger, MD
Professor and Chairman, Department of Neurology,
Interim Chairman, Department of Neurosurgery,
Associate Dean for Research, University of Florida
College of Medicine – Jacksonville, and Director,
Neuroscience Institute, Shands Jacksonville, FL, USA

Mark Beyer, DO
Resident in Ophthalmology, Philadelphia College of
Osteopathic Medicine, Philadelphia, PA

Don C. Bienfang, MD
Director of Neuro-ophthalmology, Brigham and
Women's Hospital Assistant Professor, Harvard
Medical School, Boston, MA, USA

Kevin M. Biglan, MD, MPH
Associate Chair for Clinical Research, Associate
Professor of Neurology, Director, National Parkinson
Foundation Center of Excellence, Director,
Huntington Disease Society of America Center of
Excellence, University of Rochester School of
Medicine and Dentistry, Rochester, NY, USA

Thomas M. Boes, MD
Department of Psychiatry, NYU School of Medicine,
New York, NY, USA

Paul W. Brazis MD
Professor of Neurology and Consultant in Neuro-
Ophthalmology and Neurology, Departments of
Neurology and Ophthalmology, Mayo Clinic,
Jacksonville, FL, USA

Jonathan L. Brismar, MD
Neurological Surgery PC, Rockville Center, NY, USA

Scott E. Brown, MD
Chief, Department of Physical Medicine and
Rehabilitation, Sinai Hospital of Baltimore,
Baltimore, MD, USA

Ryan R. Byrne, MD
Assistant Professor of Psychiatry and Behavioral
Medicine, Medical College of Wisconsin (MCW),
Milwaukee, WI, USA

Rina Caparella, MD
Chief of Neurology, ProHealth, Lake Success,
NY, USA

Casey A. Chamberlain, DO
Physiatrist, Michigan State University College of
Osteopathic Medicine, Department of Physical
Medicine and Rehabilitation, East Lansing, MI, USA

Wan-Tsu W. Chang, MD
Clinical Fellow, Neurosciences Critical Care Division,
Department of Anesthesiology and Critical Care
Medicine, Johns Hopkins University School of
Medicine, Baltimore, MD, USA

Grace M. Charles, BA
Mount Sinai School of Medicine, New York, NY, USA

Jasvinder Chawla, MD, MBA, FAAN
Chief, Neurology Service, Edward Hines, Jr. VA
Hospital, Hines, IL, USA

David Clark, DO
Neuro-ophthalmology Fellow, Michigan State
University, East Lansing, MI, USA

Todd J. Cohen MD FACC FHRS
Director of Electrophysiology
Director of the Pacemaker Arrhythmia Center,
Winthrop University Hospital, Mineola, NY, USA

Joe Colombo, PhD
Medical Director, Ansar Medical Technologies,
Philadelphia, PA, USA

Howard Crystal, MD
Professor of Neurology, Pathology, and Psychiatry,
SUNY Downstate Medical Center, Brooklyn, NY,
USA

Vladimir Dadashev, MD
Neurosurgeon, Neurological Surgery PC, Rockville
Center, NY, USA
Sarita B. Dave, MD
Senior Resident, Ophthalmology, Vanderbilt Eye Institute, Nashville, TN, USA

Jean Robert Desrouleaux, MD
Neurologist, Hempstead NY, USA

Richard L. Doty, PhD
Professor and Director, Smell and Taste Center, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, USA

Robert Duarte, MD
Director, Pain Center
Assistant Professor of Neurology, Hofstra North Shore-LIJ School of Medicine, Manhasset, NY, USA

Jeffrey S. Durmer, MD, PhD
Chief Medical Officer, Fusion Health and Fusion Sleep, Atlanta, GA, USA

Christyn M. Edmundson
Medical Student, Albert Einstein College of Medicine, Bronx, NY, USA

Eric R. Eggenberger, DO, MSEpi
Professor and Vice-Chairman, Michigan State University Department of Neurology & Ophthalmology, East Lansing, MI, USA

Steven Ender, DO
Assistant Clinical Professor of Neurology, Albert Einstein College of Medicine, Bronx, NY, USA

Noam Epstein, MD, MS
Staff Neurologist and Researcher, Edward Hines, Jr. VA Hospital, Hines, IL, USA

Alberto J. Espay, MD, MSc, FAAN
Associate Professor of Neurology and Director of Clinical Research, UC Neuroscience Institute, Department of Neurology, Gardner Family Center for Parkinson's Disease and Movement Disorders, University of Cincinnati, Cincinnati, OH, USA

Alan B. Ettinger, MD, MBA
Epilepsy Director, Neurological Surgery P.C., Rockville Center; Director of the Epilepsy Wellness Program, Winthrop University Hospital, Mineola; Director of EEG and Epilepsy, Huntington Hospital, Huntington; and Professor of Clinical Neurology, Albert Einstein College of Medicine, Bronx, NY, USA

Niloofar (Nelly) Faghani, PT
Physiotherapist/Clinical Director/Owner, Aurora Prime Physiotherapy and Sports Rehabilitation Centre, Richmond Hill, ON, Canada

Amtul Farheen, MD
Neuromuscular Center, Neurological Institute, University Hospitals Case Medical Center, Case Western Reserve University, School of Medicine, Cleveland, OH, USA

Edward Firouztale, DEngSc, DO
South Shore Neurologic Associates, Patchogue, NY, USA

Rod Foroozan, MD
Associate Professor of Ophthalmology, Cullen Eye Institute, Baylor College of Medicine, Houston, TX, USA

Anne L. Foundas, MD
Professor and Chair, Department of Neurology and Cognitive Neuroscience, University of Missouri-Kansas City School of Medicine, Kansas City, MO, USA

David Elliot Friedman, MD
Medical Director, Winthrop Comprehensive Epilepsy Center, Mineola, NY, USA

Deborah I. Friedman, MD, MPH
Professor, Departments of Neurology and Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX, USA

Steven J. Frucht, MD
Professor of Neurology and Director, Movement Disorders Division, Mount Sinai School of Medicine, New York, NY, USA

Oded Gerber, MD
Associate Professor, Department of Neurology at Stony Brook University Hospital, Stony Brook, NY, USA

Tal Gilboa, MD
Pediatric Epilepsy Clinic Director, Shaare-Zedek Medical Center, Jerusalem, Israel

Martin Gizzi, MD, PhD
Professor and Chairman, NJ Neuroscience Institute, Seton Hall University JFK Medical Center, Edison, NJ, USA
List of contributors

Teneille G. Gofton, MD, MSc, FRCPC
Department of Clinical Neurological Sciences,
London Health Sciences Centre – University Hospital, The University of Western Ontario, London, ON, Canada

Louis J. Goodrich
Medical Student, Nova Southwestern University,
Davie, FL, USA

Malcolm H. Gottesman, MD, FACP, FAAN
Professor of Clinical Neurology, Stony Brook University School of Medicine
Chief, Division of Neurology, Winthrop-University Hospital, Mineola, NY, USA

Varda Gross-Tsur, MD
Associate Professor, Pediatrics (Neurology), Faculty of Medicine, Hebrew University
Director, Neurodevelopment Unit, Shaare Zedek Medical Center, Jerusalem, Israel

Deepak Grover, DO
Ophthalmologist, Philadelphia, PA, USA

David A. Gudis, MD
Resident Physician, Department of Otorhinolaryngology: Head and Neck Surgery, University of Pennsylvania Health System, Philadelphia, PA, USA

John J. Halperin, MD, FAAN, FACP, FRCP(E)
Professor of Neurology & Medicine, Mount Sinai School of Medicine Chair; Department of Neurosciences, Overlook Medical Center, Summit, NJ, USA

Maxim D. Hammer, MD
Assistant Professor of Neurology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

Andrew R. Harrison, MD
Departments of Ophthalmology & Visual Neurosciences and Otolaryngology
Director, Ophthalmic Plastic and Reconstructive Surgery Service Co-Director, Center for Thyroid Eye Disease, Associate Professor, University of Minnesota, Minneapolis, MN, USA

L. Anne Hayman, MD
Clinical Director Neuro-Radiology, Anatom-e Information Systems, Ltd., Houston, TX, USA

Galen V. Henderson, MD
Director of Neuro ICU, Brigham and Women’s Hospital, Boston, MA, USA

Steven Herskovitz, MD
Professor of Clinical Neurology and Director of the Neuromuscular Division and EMG Lab, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY, USA

Caitlin Hoffman, MD
Department of Neurological Surgery, Weill Cornell Medical College, New York Presbyterian Hospital, New York, NY, USA

Laryssa A. Huryn, MD
Resident in Ophthalmology, Department of Ophthalmology, Syracuse, NY, USA

Andres M. Kanner, MD
Professor of Clinical Neurology, Director, Comprehensive Epilepsy Center and Chief, Epilepsy Section, University of Miami Miller School of Medicine, Miami, FL, USA

Gary P. Kaplan, MD, PhD
Clinical Associate Professor of Neurology, Hofstra North Shore-LIJ School of Medicine, Hempstead, NY, USA

Bashar Katirji, MD
Director, Neuromuscular Center and EMG Laboratory, University Hospitals Case Medical Center Program Director, Neuromuscular Medicine, University Hospitals Case Medical Center Professor, Neurology, Case Western Reserve University School of Medicine, Cleveland, OH, USA

Kenneth R. Kaufman, MD, MRCPsych
Professor of Psychiatry, Neurology, and Anesthesiology, Departments of Psychiatry, Neurology, and Anesthesiology, Rutgers – Robert Wood Johnson Medical School, New Brunswick, NJ, USA

Annie Killoran, MD MSc
Assistant Professor of Neurology, Director of the WVU Movement Disorders Clinic, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, WV, USA

Nina Kirz, MD
Clinical Instructor, Child and Adolescent Psychiatry, Stanford University, Stanford, CA, USA
List of contributors

Gad E. Klein, PhD
Neurological Surgery PC, Lake Success, New York, USA

Danielle G. Koby, PhD
Staff Psychologist, Division of Health Psychology, The Institute of Living, Departments of Neurology and Neurosurgery, Comprehensive Epilepsy Center, Hartford Hospital, Hartford, CT, USA

Christopher P. Kogut, MD
Assistant Professor, Department of Psychiatry, Virginia Commonwealth University, Richmond, VA, USA

W. Curt LaFrance Jr, MD, MPH
Assistant Professor of Psychiatry and Neurology (Research), Alpert Medical School, Brown University, Director of Neuropsychiatry and Behavioral Neurology, Rhode Island Hospital, Providence, RI, USA

Patrick J.M. Lavin, MD
Professor of Neurology and Ophthalmology, Vanderbilt University Medical Center, Nashville, TN, USA

Susan W. Law, DO
Neurology Resident, SUNY Downstate Medical Center Long Island College Hospital, Brooklyn, NY, USA

James L. Levenson, MD
Vice Chair, Department of Psychiatry, Chair, Division of Consultation-Liaison Psychiatry and Professor of Psychiatry, Medicine and Surgery, Virginia Commonwealth University School of Medicine, Richmond, VA, USA

Richard B. Lipton, MD
Edwin S. Lowe Professor and Vice Chair of Neurology, Professor of Epidemiology and Population Health and Professor of Psychiatry and Behavioral Sciences, Albert Einstein College of Medicine, Bronx, NY, USA

Glenn Lopate, MD
Associate Professor, Department of Neurology, Division of Neuromuscular Diseases, Washington University School of Medicine; Consulting Staff, Department of Neurology, Barnes-Jewish Hospital, St. Louis, MO, USA

Daniel J. Luciano, MD
Director of the Clinical Epilepsy Program at the NYU Comprehensive Epilepsy Center and Director of the Out Patient EEG Epilepsy Service, NYU School of Medicine, NY, USA

Reema Maindiratta, MD
Neurologist, Babylon, NY, USA

Robert M. Mallery, MD
Resident in Neurology, Harvard Medical School, Massachusetts General Hospital, and Brigham and Women’s Hospital, Boston, MA, USA

Georgios Manousakis, MD
Assistant Professor, University of Minnesota, Minneapolis, MN, USA

Alan Mazurek, MD
Assistant Clinical Professor of Neurology at Mt. Sinai Medical Center and Director of Rockville Center Neurology, Rockville Centre, NY, USA

Luis J. Mejico, MD
Associate Professor of Neurology and Ophthalmology, SUNY Upstate Medical University, Syracuse, NY, USA

Dragana Micic, MA, PhD
Department of Psychology, Queens College, The City University of New York, NY, USA

Ali Mokhtarzadeh, MD
Fellow, Oculoplastic and Orbital Surgery University of Minnesota Minneapolis, MN, USA

Walter J. Molofsky, MD
Associate Professor of Neurology, Albert Einstein College of Medicine, Chief, Pediatric Neurology, Beth Israel Medical Center, New York, NY, USA

Heather E. Moss, MD, PhD
Assistant Professor in Ophthalmology, Department of Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL, USA

Mark L. Moster, MD
Professor of Neurology and Ophthalmology, Neuro-Ophthalmology Service, Wills Eye Institute, Thomas Jefferson University School of Medicine, Philadelphia, PA, USA

Manpreet Multani, MD
NJ Neuroscience Institute, Seton Hall University, Edison, NJ, USA
# List of contributors

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siddhartha Nadkarni, MD</td>
<td>Assistant Professor of Neurology, Director of the Epilepsy HOS Clinic and Epilepsy Fellowship Program, NYU School of Medicine, New York, NY, USA</td>
</tr>
<tr>
<td>George C. Newman, MD, PhD</td>
<td>Professor and Chairman, Neurosurgery Sciences, Director, Stroke Program, Albert Einstein Medical Center, Philadelphia, PA, USA</td>
</tr>
<tr>
<td>Rolla Nuoman, MD</td>
<td>Pediatric Resident, Woodhull Medical Center, New York University, Brooklyn, NY, USA</td>
</tr>
<tr>
<td>Paul A. Nyquist, MD, MPH</td>
<td>Associate Professor, Department of Neurology, Anesthesiology and Critical Care Medicine, Neurosurgery, Johns Hopkins University School of Medicine, Baltimore, MD, USA</td>
</tr>
<tr>
<td>Gaia Donata Oggioni, MD</td>
<td>UC Neuroscience Institute, Department of Neurology, Gardner Family Center for Parkinson's Disease and Movement Disorders, University of Cincinnati, Cincinnati, OH, USA</td>
</tr>
<tr>
<td>Odi Oguh, MD</td>
<td>Department of Neurology, Università del Piemonte Orientale A. Avogadro, Novara, Italy</td>
</tr>
<tr>
<td>University of Florida</td>
<td>Jacksonville Assistant Professor, Department of Neurology Jacksonville, FL, USA</td>
</tr>
<tr>
<td>Denis Ostrovskiy, MD</td>
<td>Assistant Clinical Professor of Neurology, Hofstra North Shore-LIJ School of Medicine, Hempstead</td>
</tr>
<tr>
<td>Assistant Clinical Professor of Neurology, Mount Sinai School of Medicine, New York, NY, USA</td>
<td></td>
</tr>
<tr>
<td>Kristina Y. Pao, MD</td>
<td>Ophthalmology Resident, Wills Eye Institute at Thomas Jefferson University, Philadelphia, PA, USA</td>
</tr>
<tr>
<td>Juwen Park</td>
<td>Oculoplastic Surgeon, Republic of Korea</td>
</tr>
<tr>
<td>Anasstas F. Pass, OD, MS, JD</td>
<td>University of Houston – University Eye Institute, Co-Director: Neuro-Ophthalmology Service, Ocular Diagnostic and Medical Eye Service, University of Houston – University Eye Institute, Houston, TX, USA</td>
</tr>
<tr>
<td>Victoria S. Pelak, MD</td>
<td>Associate Professor of Neurology and Ophthalmology, University of Colorado School of Medicine, Aurora, CO, USA</td>
</tr>
<tr>
<td>Jeffrey Peterson, MD, PhD</td>
<td>Cullen Eye Institute, Baylor College of Medicine, Houston, TX, USA</td>
</tr>
<tr>
<td>John Pile-Spellman, MD</td>
<td>Neurological Surgery PC, Rockville Center, NY, USA</td>
</tr>
<tr>
<td>Misha L. Pless, MD</td>
<td>Chief, Divisions of General Neurology and Neuro-ophthalmology Neurology Department, Massachusetts General Hospital Associate Professor, Harvard Medical School, Neuro-ophthalmology, Multiple Sclerosis and General Neurology, Boston, MA, USA</td>
</tr>
<tr>
<td>Gregory M. Pontone, MD</td>
<td>Assistant Professor and Director, Movement Disorders Psychiatry Clinic, John Hopkins University School of Medicine, Baltimore, MD, USA</td>
</tr>
<tr>
<td>Aparna M. Prabhu, MD</td>
<td>Attending Neurologist, Albert Einstein Medical Center, Philadelphia, PA, USA</td>
</tr>
<tr>
<td>Michael T. Pulley, MD, PhD</td>
<td>Clinical Associate Professor of Neurology, Director EM6 Laboratory, University of Florida, Jacksonville, FL, USA</td>
</tr>
<tr>
<td>Philip Ragone, MD</td>
<td>Neurologist, Great Neck, NY, USA</td>
</tr>
<tr>
<td>Prajwal Rajappa, MD</td>
<td>Fellow, Department of Neurological Surgery, Weill Cornell Medical College, New York Presbyterian Hospital, New York, NY, USA</td>
</tr>
<tr>
<td>Venkat Ramani, MD</td>
<td>Professor of Neurology at New York Medical College Chief of Section of Epilepsy and Clinical Neurophysiology Laboratory at Westchester Medical Center, Valhalla, NY, USA</td>
</tr>
<tr>
<td>Sindhu Ramchandren, MD, MS</td>
<td>Assistant Professor of Neurology, Director of the Pediatric and Adult CMT and MDA Clinic, University of Michigan, Ann Arbor, MI, USA</td>
</tr>
<tr>
<td>Name</td>
<td>Title and Affiliation</td>
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<tr>
<td>Ritesh A. Ramdhani, MD</td>
<td>Fellow, Movement Disorders Division, Department of Neurology, Mount Sinai School of Medicine, New York, NY, USA</td>
</tr>
<tr>
<td>Ramses Ribot, MD</td>
<td>Fellow in Clinical Neurophysiology, Department of Neurological Sciences, Rush Medical College at Rush University and Rush University Medical Center, Chicago, IL, USA</td>
</tr>
<tr>
<td>Heidi D. Riney, MD, D. ABPN</td>
<td>Sleep Medicine Medical Director, Fusion Sleep, Atlanta, GA, USA</td>
</tr>
<tr>
<td>Diana Rojas-Soto, MD</td>
<td>Stroke Fellow, Department of Neurology SUNY Downstate Medical Center, Brooklyn, NY, USA</td>
</tr>
<tr>
<td>Michael Ronthal, MD</td>
<td>Professor of Neurology, Harvard Medical School, Boston, MA, USA</td>
</tr>
<tr>
<td>Daniel M. Rosenbaum, MD</td>
<td>Professor and Chairman, Department of Neurology, SUNY Downstate Medical Center, SUNY Downstate Stroke Center, Brooklyn, NY, USA</td>
</tr>
<tr>
<td>David B. Rosenfeld, MD</td>
<td>Director, Speech and Language Center, Director, EMG and Motor Control Laboratory, Neurological Institute, The Methodist Hospital Professor, Weill Medical College of Cornell University, Houston, TX, USA</td>
</tr>
<tr>
<td>Durga Roy, MD</td>
<td>Assistant Professor Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine Baltimore, MD, USA</td>
</tr>
<tr>
<td>Michael J. Ruckenstein, MD</td>
<td>Professor and Vice Chairman, Department of Otorhinolaryngology: Head and Neck Surgery, University of Pennsylvania Health System, Philadelphia, PA, USA</td>
</tr>
<tr>
<td>Max C. Rudansky, MD, FACP</td>
<td>Clinical Assistant Professor of Neurology, Hofstra North Shore-LIJ School of Medicine Emeritus Chief and Director of Stroke Unit, Huntington Hospital, Huntington, NY, USA</td>
</tr>
<tr>
<td>Eva Sahay, MD</td>
<td>Consultant Neurology and Neurophysiology, Sahay Medical Group PC, Garden City, NY, USA</td>
</tr>
<tr>
<td>Friedhelm Sandbrink, MD</td>
<td>Assistant Clinical Professor of Neurology, Georgetown University, Washington, DC; Director EMG Laboratory and Chief Pain Clinic, Department of Neurology, Washington VA Medical Center, Washington, DC, USA</td>
</tr>
<tr>
<td>Jade S. Schiffman, MD, FAAA, FAAN</td>
<td>Professor of Ophthalmology and Neuro-Oncology, Director of Neuro-Ophthalmology, Head &amp; Neck Surgery, Section of Ophthalmology, and Co-Director of MS EyeCARE, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</td>
</tr>
<tr>
<td>Angela Scicutella, MD, PhD</td>
<td>Attending Neuropsychiatrist, Clinical Associate Professor in Psychiatry, Hofstra North Shore – Long Island Jewish School of Medicine at Hofstra University, Hempstead, NY, USA</td>
</tr>
<tr>
<td>Maroun T. Semaan, MD</td>
<td>Clinical Assistant Professor of Otolaryngology at University Hospitals Case Medical Center and the Louis Stokes Cleveland Department of Veteran Affairs Medical Center, Case Western Reserve University, Cleveland, OH, USA</td>
</tr>
<tr>
<td>Robert C. Sergott, MD</td>
<td>Director, Neuro-Ophthalmology Wills Eye Hospital; Professor of Ophthalmology, Neurology, and Neurosurgery, Thomas Jefferson University, Philadelphia, PA, USA</td>
</tr>
<tr>
<td>Aashit K. Shah, MD, FAAN, FANA</td>
<td>Professor and Associate Chair Wayne State University Department of Neurology; Director, Comprehensive Epilepsy Program Director, Clinical Neurophysiology Fellowship, Wayne State University Detroit; Medical Center Chief of Neurology, Harper University Hospital</td>
</tr>
<tr>
<td>David M. Shaw, BA</td>
<td>Department of Psychiatry, NYU School of Medicine, New York, NY Department of Psychology, Fordham University, Bronx, NY, USA</td>
</tr>
<tr>
<td>Amit M. Shelat, DO, MPA, FACP</td>
<td>Assistant Professor of Clinical Neurology, Stony Brook University School of Medicine and Attending Neurologist, Winthrop-University Hospital, Mineola, NY, USA</td>
</tr>
</tbody>
</table>
List of contributors

Claire A. Sheldon, MD, PhD, FRCSC
Department of Ophthalmology and Visual Sciences,
University of British Columbia, VC, Canada

Anant M. Shenoy, MD
Neurology Attending, Baystate Medical Center and
Assistant Professor of Neurology, Tufts University
School of Medicine, Springfield, MA, USA

Yelizaveta Sher, MD
Instructor, Psychosomatic Medicine, Stanford
University Medical Center Stanford, CA, USA

Jessica A. Shields, PhD
Brain & Behavior Program, Department of
Neurology, Cell Biology & Anatomy, Louisiana State
University Health Sciences Center, New Orleans, LA,
USA

Tanya Simuni, MD
Arthur C. Nielsen Professor of Neurology, Director,
Parkinson’s Disease and Movement Disorders Center,
Northern University Feinberg School of
Medicine, Chicago, IL, USA

Rajpaul Singh, MD
Neurology, Hollis, NY, USA

Eric E. Smouha, MD
Associate Professor and Director of Otology-
Neurotology, Department of Otolaryngology,
Mount Sinai School of Medicine, New York,
NY, USA

David Solomon, MD, PhD
Assistant Professor of Neurology and Otolaryngology
Head and Neck Surgery, CSF Disorders Program,
Johns Hopkins Hospital, Baltimore, MD, USA

Mehri Songhorian, MD
Neurologist, Great Neck, NY, USA

Steven A. Sparr, MD, FAAN
Professor of Clinical Neurology and Assistant
Professor of Rehabilitation Medicine, Albert Einstein
College of Medicine, Bronx, NY, USA

Egilius L. H. Spierings, MD, PhD
Associate Clinical Professor of Neurology, Brigham
and Women’s Hospital, Harvard Medical School;
Associate Clinical Professor of Craniofacial Pain,
Tufts University School of Dental Medicine; Director,
Headache and Face Pain Program, Tufts Medical
Center, Boston, MA, USA

Eve G. Spratt, MD
Professor of Psychiatry, Medical University of South
Carolina, Mount Pleasant, SC, USA

Beth Stein, MD
Assistant Professor of Neurology, Montefiore Medical
Center, Albert Einstein College of Medicine, Bronx,
NY, USA

S.H. Subramony, MD
Professor, Department of Neurology, University of
Florida College of Medicine, Gainesville, FL, USA

Rosa Ana Tang, MD, MPH, MBA
Director, Neuro-Ophthalmology Service and
Co-Director, MS EyeCARE, University of Houston –
University Eye Institute, Houston, TX, USA

Cara Tannenbaum, MD, MSc
Associate Professor of Medicine, Institut universitaire
de gériatrie, Université de Montréal, QC, Canada

Hakan Tekeli, MD
Neurology Department, Kasimpasa Military Hospital,
Istanbul, Turkey

Amanda J. Thompson, MD
Adjunct Clinical Post-Doctoral Fellow, University of
Florida Center for Movement Disorders and
Neurorestoration, Gainesville, FL, USA

Michael J. Thorpy, MD
Director, Sleep-Wake Disorders Center, Montefiore
Medical Center, Albert Einstein College of Medicine,
Bronx, NY, USA

Matthew J. Thurtell, BSc(Med), MBBS,
MSc(Med), FRACP
Assistant Professor of Ophthalmology and Neurology,
Department of Ophthalmology and Visual Sciences,
University of Iowa, Iowa City, IA, USA

Pedro J. Torrico, MD
Department of Neurology, North Shore Medical
Group of the Mount Sinai School of Medicine,
Huntington, NY, USA

Ira M. Turner, MD
The Center for Headache Care and Research, Island
Neurological Associates PC, Plainview, NY, USA

Scott Uretsky, MD
Director, Neuro-Ophthalmology Division,
Neurological Surgery PC, Lake Success, NY, USA
List of contributors

Ruth H. Walker, MB, ChB, ASS, PhD
Department of Neurology, James J. Peters Veterans Affairs Medical Center, Bronx, NY and Mount Sinai School of Medicine, New York City, NY, USA

Deborah M. Weisbrot, MD
Associate Professor of Clinical Psychiatry and Director, Child & Adolescent Psychiatry Outpatient Clinic, Department of Psychiatry and Behavioral Sciences, Stony Brook University Medical Center, New York, USA

Michael A. Williams, MD, FAAN
Medical Director, The Sandra and Malcolm Berman Brain & Spine Institute
Director, Adult Hydrocephalus Center, Sinai Hospital of Baltimore, Baltimore, MD, USA

Jacques Winter, MD
Neurologist Huntington, New York, NY, USA

Randall J. Wright, MD
Clinical Assistant Professor, UT Health, Department of Neurosurgery, Mischer Neuroscience Associates, Houston, TX, USA

Jay Elliot Yasen, MD
Director Stroke Service, Associate Professor of Clinical Neurology, School of Medicine, State University of New York at Stony Brook, NY, USA

Shicong Ye, MD
Assistant Professor of Clinical Neurology, Stony Brook University School of Medicine, and Attending Neurologist, Winthrop-University Hospital, Mineola, NY, USA

G. Bryan Young, MD, FRCP
Department of Clinical Neurological Sciences,
London Health Sciences Centre – University Hospital, The University of Western Ontario, London, ON, Canada

Huiying Yu, MD
Director of Neurodiagnostic Laboratory, Winthrop University Hospital, Mineola, NY, USA

Ryan J. Zehnder, MD
Physical Medicine and Rehabilitation, Evergreen Rehabilitation, Kirkland, WA, USA
Foreword

There is an apocryphal story of an eminent neurology professor who was asked to provide a differential diagnosis. He allegedly quipped: "I can’t give you a differential diagnosis. If you wish I will give you a list of wrong diagnoses followed by the right diagnosis." Sadly, this sort of arrogance pervaded our field, particularly in the era before there were accurate diagnostic methods and effective treatments of neurological diseases. Fortunately, this sort of pomposity is now relegated to the past and remains only as an antique reminder of a type of hubris that precluded discovery and progress in diseases of the nervous system.

Fortunately, the era of therapeutic nihilism in neurology is over, but now we are faced with a different problem. There is simply too much information for any one person to accommodate. In the twentieth century, internal medicine responded to this explosion of knowledge by differentiating itself into an array of subspecialties, such as cardiology, endocrinology, nephrology, hematology, oncology, gastroenterology, infectious diseases, pulmonology, and many more. The internist of the 1950s took care of patients with cardiological and hematological problems. In the year 2000, no one can imagine a hematologist performing a cardiac catheterization or a nephrologist managing hepatitis C. Similarly, in the twenty-first century neurology now is a group of fields, such as stroke, movement disorders, epilepsy, cancer neurology, neuromuscular disease, headache, multiple sclerosis, cognitive and behavioral neurology, neuroophthalmology and many more. Just as, in internal medicine, the Parkinson’s disease expert cannot be expected to undertake the treatment of brain tumors or complex epilepsy.

But because of the changes in the way medical care is delivered, neurology, as internal medicine, has experienced a renaissance of the generalist in the form of divisions of general and hospital neurology. After all, someone must decode the non-specific neurological complaint, such as dizziness, headache, and confusion, and determine the nature of the problem so the evaluation and treatment can be undertaken in an effective and efficient manner. Obtaining an unfocused array of neurodiagnostic tests is not only inordinately expensive, but it is potentially dangerous, as it may disclose an incidentaloma, the irrelevant finding on a blood test or image that can lead to unnecessary and even life-threatening interventions. Also the availability of an enormous amount of medical information to the lay public, some of which is useful but most of which is misleading and often terrifying for the patient, greatly complicates the care of patients who may come to the doctor with a strongly held theory of their own problem.

It was in this context that Alan Ettinger and Deborah Weisbrot conceived of the idea of a practical, easily accessible source for the clinician to generate a rapid differential diagnosis when faced with the most common neurological complaints. This is a bold and ambitious endeavor as the number of such complaints is enormous. Entire textbooks have been written about virtually all of the major subjects and a huge literature lurks in the background for every problem. Rather than try to create simply another textbook, Drs Ettinger and Weisbrot have disciplined their large array of authors to follow a strict format. For each chapter, there is a brief description of the symptom, sign, or condition, followed by a summary of the relevant anatomy, physiology, and pathophysiology. The heart of each chapter is a differential diagnosis table, which is consistent throughout the book. For each item, the differential diagnosis is divided by the basic nature of the problem, followed by specific types, etiologies, and clinical features. For example, for the dilated pupil, the several major categories of the table are toxic, pressure, degenerative, vascular, traumatic, inflammatory, ictal, and congenital. For toxic types, anticholinergic and adrenergic are listed as the subtypes. For anticholinergic, scopolamine, cosmetics, glaucoma treatments are listed as etiologies and for scopolamine, special clinical features such as...
accidental instillation into the eye of an agent being used for the prevention of motion sickness. Following the table, there is an illustrative clinical vignette. For the dilated pupil, a case of a male who was using scopo- lamine to prevent seasickness is recounted.

Using this stereotyped method the reader can know exactly how to look up a particular symptom (e.g. dizziness) or sign (e.g. the dilated pupil) and quickly obtain a reasonable differential diagnosis which will aid in ordering studies, starting treatment, and referring to the appropriate specialist. The book will be valuable to multiple different types of readers depending on their specific needs and level of sophistication. The student will use the book to begin to understand the assessment of the patient with a neurological complaint. The non-neurologist, including other specialists and physician extenders, will be aided in approaching such patients and referring those who need it to the appropriate specialist. The general neurologist will use it to refresh memory of the many different subspecialties of the field and the subspecialist will find it invaluable to deal with problems outside their area of special competence. Those taking certifying examinations can use it as a study guide for the major neurological problems faced in the practice of medicine, whether it be in the office, the hospital, or the emergency department.

Ettinger and Weisbrot’s Neurologic Differential Diagnosis: A Case-Based Approach is likely to become a must-have for any doctor or other healthcare provider who must assess neurologic symptoms and signs, and that is just about everyone.

Martin A. Samuels, M.D.
Preface

There is certainly no paucity of general and specialty neurology textbooks, so why produce yet another one? This book was inspired by our experiences as neurology and psychiatry residents many years ago, and has been reinforced decades later as senior clinicians. Nowadays, in the era of managed care, clinicians are expected to see increasing numbers of patients in shorter amounts of time; how can the clinician ensure that important diagnoses are not missed?

It seems to us that it is unlikely that the busy neurologist or neurology resident will have the time or inclination to pore through voluminous textbooks in the office or emergency room, looking for clarification of differential diagnosis. A smaller collection of textbooks specifically devoted to differential diagnosis is available; however, many of these are essentially bare-bone lists of diagnoses while others seem too basic or superficial.

What we seek to provide in Neurologic Differential Diagnosis: A Case-Based Approach, is a highly accessible and pragmatic guide to the vast array of potential etiologies for neurologic and psychiatric symptoms. Clinicians can readily find, in the alphabetized arrangement of topics, immediate references that remind the clinician of items to check for when faced with complaints of "dizziness," "mental status change," "diplopia," or "psychosis." Instead of simple lists of potentially responsible causes for symptoms, each diagnostic possibility is linked to reminders of key elements that will help the clinician decide whether the specific patient’s presentation fits with each possible etiology. In addition, each chapter includes case studies that exemplify a systematic approach to differential diagnosis of each symptom.

Who will find the book useful? Both experienced and junior neurologists should find the content written by the expert authors to be invaluable. The non-neurologist such as the internist or general or family practitioner, emergency room physician, physician assistant, and nurse practitioner who finds the subject of neurology to be esoteric and difficult to conceptualize, will find the organized tables in each chapter to be readily comprehensible. Many chapters are devoted to psychiatric symptoms and will find good use in the hands of the psychiatrist performing the essential task of ruling out compelling medical diagnoses presenting as psychiatric conditions. Neurologists and psychiatrists preparing for their board examinations will also find Neurologic Differential Diagnosis to be invaluable, particularly because of the inclusion of case examples and the discussion of the organized approach to diagnosing each symptom.

As academic clinicians teaching residents in neurology and psychiatry, we have had the opportunity to pilot the use of numerous chapters as teaching guides for physicians-in-training. We have been very gratified by the enthusiastic and positive feedback that we have received from our student physicians as well as our colleagues. We sincerely hope that this book will find an important place on the shelves of clinicians everywhere.
Acknowledgments

This ambitious project would not have been possible without the kind and dedicated efforts of numerous individuals. We would like to acknowledge the many authors who, in spite of daily clinical and academic demands, contributed invaluable chapters to this book. We extend our special thanks to Dr. Bashar Katirji who provided additional assistance in reviewing the chapters related to peripheral nerve disease. We also thank Dr. Richard Libman for his helpful comments.

We would also like to thank the many colleagues who provided administrative assistance or helped procure medical articles utilized in formulating this book. These include Rosemary Valdez, Chaomei Wu, Gilda Davis, Kathy Grzymala, Anna Dushenkov, Erica Jalal, Susan Simpson, Debra Rand, Shifra Atik, Barbara Sacks, and Rita Feigenberg.

We would also like to acknowledge individuals who have played special roles in our lives. First, Dave Jones, LCSW, for sharing his extraordinary wisdom and insight. Second, our friend John Mangione, for providing musical diversion during the long process of preparing this book and for his generous spirit raising funds to help children with devastating neurological disorders. Finally, Omri Adut, for bringing the great joy of horseback riding into Deborah's life and enabling her to fulfill her most treasured childhood dream.

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Finally, we thank our patients, who shared their lives and struggles with us and taught us the true value of patiently taking a thorough history when generating the differential diagnosis.

Alan B. Ettinger, MD, MBA
Deborah M. Weisbrot, MD