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Neville M. Jadeja  
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**Neville M. Jadeja**

University of Massachusetts Medical School



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Chu, MD

Figure 12.18 courtesy of Lu Lin,  
MD, PhD

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and 13.25 courtesy of Lu  
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Behnaz Esmaeli, MD

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Esmaeli, MD

Figure 21.1–21.9 courtesy of  
Mugdha Mohanty,  
MD

Figure 23.4 and 23.9 courtesy  
of Kyle C. Rossi, MD

Figure 23.8 courtesy of  
Poornima A. Shah, MD

## Foreword

I have been learning and teaching the interpretation of electroencephalograms for 20 wonderful years. It has been incredibly rewarding to learn how to use the tool of EEG, which is relatively inexpensive and safe, to improve the care of patients with seizures and other neurologic symptoms. I recommend that all neurologists try as much as possible to feel comfortable with the use of EEG and interpreting the reports of electroencephalographers. But, it can be challenging, and many clinicians wish they were better in this field. Dr. Neville Jadeja's book is a great place to start fulfilling this wish.

I had the pleasure of training Dr. Jadeja during his epilepsy fellowship at the Edward B. Bromfield Epilepsy Center at Brigham and Women's Hospital at Harvard Medical School. He has always shown a joy in both learning and teaching EEG. The reader should be aware that Dr. Jadeja's teaching always comes with a smile. When I read this book, I can hear his upbeat voice and even see that enthusiasm and sparkle in his eye that he brought to fellowship every day. In much of his teaching, I also hear the voice of my own mentor, Dr. Bromfield, who passed down his teaching to me and many of Dr. Jadeja's other teachers of EEG.

Dr. Jadeja is a true expert in reading EEGs. Beyond his fellowship with me, he completed a fellowship in neurophysiology and intraoperative monitoring at Massachusetts General Hospital and now works at the University of Massachusetts in the Epilepsy Division. Dr. Jadeja has used his expertise in EEG and teaching to write "a just right" EEG book for learning to read EEGs; it is not too lengthy and does not skip any important details. Honestly, learning to read an EEG can be a daunting proposition, but this book makes it easy and shows how practical a skill this can be. This book contains great images of EEGs as well as clear descriptions of typical findings in adults, children, and neurocritical care EEG monitoring. The section on writing a report is particularly helpful for the examples provided.

As an author of the Accreditation Council of Graduate Medical Education (ACGME) Neurology Milestones and Epilepsy Milestones,

I find it particularly noteworthy that Dr. Jadeja's book can fulfill all EEG-related neurology milestones. These milestones are explain an EEG in nontechnical terms, use appropriate terminology related to EEG, describe normal EEG features of wake and sleep states, recognize EEG patterns of status epilepticus, recognize common EEG artifacts, interpret common EEG abnormalities, create a report, and recognize normal EEG variants. Additionally, this book serves as excellent preparation and review for beginning advanced training in epilepsy and clinical neurophysiology.

For those looking to learn EEG for the first time and for those wishing to refresh your skills, this book is for you. Enjoy!

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## Preface

Electroencephalography (EEG) is a powerful test that can provide valuable insight into cerebral functioning. However, most clinicians, including neurologists who don't routinely read EEGs, find them complex and confusing. The lack of standardization among experienced electroencephalographers adds to this perception. Although many excellent atlases and reference texts exist, the need for a simple guide has been long felt. This book aims to fill that void with a stepwise approach. It enables readers, especially trainees, to confidently interpret EEGs and benefit their patients.

This approach borrows heavily from those of my teachers at the Edward B. Bromfield, MD comprehensive epilepsy program at the Brigham and Women's Hospital and the intra operative neurophysiology unit at Massachusetts General Hospital. I also gratefully acknowledge my clinical colleagues and technicians at the University of Massachusetts. I wish to thank Lenora Ocava, Peter Mabie, Mark Milstein and Matthew Robbins for inspiring me to study neurology and my colleagues Azad Irani, Jerestyn Khopoliwalla, Angeliki Vgontzas, Rachel Passannante, Kelsey Goostrey, Matthew Schrettner, Lu Lin, Claire Joubert, Kyle Rossi, Behnaz Esmaeli, Felicia Chu, Mugdha Mohanty, Minh Lang, Celia Gomes McGillivray, Ika Noviawaty, Jess Slammin and Don Chin for their encouragement. This book would have been impossible without the tolerance of my wife, Shilpa, and the support of our family and friends. Last but not least, I thank Anna Whiting, Camille-Lee Own, and Deborah van Wyk at Cambridge University Press for making this possible.

I hope you enjoy it.

## How to Read This Book

This book has three parts that should be read sequentially.

Part I (Basics) equips the reader with the foundational knowledge necessary to begin reading EEGs. It consists of chapters dedicated to understanding the technical aspects of interpretation and the normal EEG.

Part II (Interpretation) is dedicated to EEG reading through a stepwise approach. This constitutes the heart of the book, with chapters about pattern recognition.

In Part III (Specific Conditions), there are EEG examples in specific clinical situations. This part reinforces the skills gained in Part II. It may also serve as a mini atlas during clinical practice. Mastery of this part enables the reader to clinically correlate the EEG to the indication for which it was requested.

Finally, there is an appendix dedicated to report writing.