Preface

Acknowledgments

Introduction

Principles of Intraoperative Neurophysiological Monitoring

Basis of Intraoperative Neurophysiological Monitoring

Generation of Electrical Activity in the Nervous System and Muscles

Practical Aspects of Recording Evoked Activity From Nerves, Fiber Tracts, and Nuclei

References to Section I

Sensory Systems

Anatomy and Physiology of Sensory Systems

Monitoring Auditory Evoked Potentials

Monitoring of Somatosensory Evoked Potentials

Monitoring of Visual Evoked Potentials

References to Section II

Motor Systems

Anatomy and Physiology of Motor Systems

Practical Aspects of Monitoring Spinal Motor Systems

Practical Aspects of Monitoring Cranial Motor Nerves

References to Section III

Peripheral Nerves

Anatomy and Physiology of Peripheral Nerves

Practical Aspects of Monitoring Peripheral Nerves

References to Section IV

Intraoperative Recordings that Can Guide the Surgeon in the Operation

Identification of Specific Neural Tissue

Intraoperative Diagnosis and Guide in Operations

References to Section V

Practical Aspects of Electrophysiological Recording in the Operating Room

Anesthesia and Its Constraints in Monitoring Motor and Sensory Systems

General Considerations About Intraoperative Neurophysiological Monitoring

Equipment, Recording Techniques, Data Analysis, and Stimulation

Evaluating the Benefits of Intraoperative Neurophysiological Monitoring

References to Section VI

Appendix

Abbreviations

Index