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# Handbook of Trigeminal Neuralgia

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Girija Prasad Rath  
Editor

# Handbook of Trigeminal Neuralgia

 Springer

*Editor*

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*Dedicated to the loving memory of  
my late mother, Smt. Indu Rath*

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## Foreword

It gives me great pleasure and immense satisfaction to write the foreword for *Handbook of Trigeminal Neuralgia*, edited by Prof. Girija Prasad Rath of the All India Institute of Medical Sciences (AIIMS), New Delhi. The subject of trigeminal neuralgia is very close to my heart as I have been involved with the management of this painful affliction for almost four decades of my career. I established the practice of pain in the Neurosciences Centre of AIIMS where the editor, Prof. Rath, is currently working. It is heartening to see the Pain Clinic, which was established nearly two decades ago, continuing to cater to many patients of trigeminal neuralgia with latest treatment strategies. I give full credit to Prof. Rath for editing this excellent handbook apart from contributing a number of chapters himself; the book covers almost all the aspects of trigeminal neuralgia available in the literature. All the contributors have done full justice to the subject. There are descriptions of newer treatment options, such as injection of botulinum neurotoxin and neuromodulation, which may encourage practitioners to look for alternative options other than the usual conventional modalities. I will not hesitate to recommend this book to all medical professionals involved in the management of intractable pain of face and head.

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## Preface

Trigeminal neuralgia is an extremely debilitating condition unlike many other medical ailments. The paroxysmal pain is so unbearable that it completely breaks down the mental strength of a person, sometimes to the point of driving him/her to even attempting suicide. I realised the enormity of this problem as a resident of Neuroanaesthesia at Neurosciences Centre of the All India Institute of Medical Sciences (AIIMS), New Delhi. It was very painful while attending to these patients in the pain clinic to listen to their stories of long-term suffering and console them during an occasional outburst of cry. My mentor, Prof. Parmod Kumar Bithal, could realise my growing interest in this particular group of patients. As a senior faculty and head of the department, Dr. Bithal gave me a lot of liberty to execute treatment plans with his constant encouragements. A lot of discussions with him further motivated me to participate regularly in treatment strategies for patients with trigeminal neuralgia, who were referred to us by colleagues from the specialities of neurology and neurosurgery. The intention to do something more for these patients fuelled my desire to read more and get updated with relevant literature. My mind still continues to be troubled with various ideas, which are sometimes conflicting, when trying to devise management plans in complex atypical cases. Meanwhile, the theoretical exploration of all treatment options took the shape of this handbook with chapters written by some of the best minds in the business to deal with this crippling condition. It is for the first time that such an issue has been given the shape of a book with compilation of possibly all treatment options mentioned in the literature.

The initial nine chapters in this handbook focus on the problems of trigeminal neuralgia highlighting aetiopathogenesis and commonly available therapeutic options. One chapter is dedicated to the diagnostic and therapeutic radiological aspects in relation to the problem. Another nine chapters discuss about agents and procedures utilised for different peripheral nerve blocks and the complications thereof. The book includes chapters on commonly practiced percutaneous ablative procedures, such as radiofrequency thermocoagulation, glycerol rhizolysis, and balloon compression, which would further broaden the knowledge of pain physicians. There are descriptions on currently popular advanced management strategies like gamma knife radiosurgery and the use of botulinum neurotoxin. To complete all proposed treatment modalities for the readers, chapters on cryotherapy, neuromodulation, prolotherapy, and complementary medicinal practice are also included. Management of the problem in association with two special situations involving

multiple sclerosis and pregnancy has also been enumerated. The last chapter discusses on outcome with different treatments offered and practical scope for the future.

I convey my heartfelt gratitude to all the authors and coauthors, who contributed immensely with lots of information on their respective topics. I am thankful to the director of AIIMS, Prof. Randeep Guleria, for permitting me to edit this book. I take this opportunity to thank my beloved teacher, Prof. Hari Hara Dash, for being the constant source of encouragement during my academic journey. I offer my sincere gratitude to Prof. Arvind Chaturvedi, Prof. R S Chouhan, faculty, senior residents, and technicians in the Department of Neuroanaesthesiology and Critical Care at AIIMS, New Delhi, for providing me with a conducive atmosphere to pursue pain management, apart from neuroanaesthesia and neurocritical care. My special thanks to my junior colleagues, Dr. Ritesh Lamsal and Dr. Siddharth Chavali, for helping me at different stages of preparation of this book. I am indebted to Dr. Naren Aggarwal, Dr. Eti Dinesh, and Ms. Beauty Christobel Gunasekaran of Springer Nature publications for guiding me to refine and develop the manuscripts into the current shape of a book. I acknowledge the silent influence of my elder brother, Dr. Lalit Mohan Rath, in my medical journey and the constant motivation of my father and parents-in-law for writing and editing scientific literature. Last but not the least, I thank my wife, Sarita, and son, Naman, for their unconditional support without which this project would have been too tough to complete.

I am reasonably sure this book will be an excellent companion not only to pain physicians, neurologists, neurosurgeons, and dental surgeons, who regularly attend to patients of trigeminal neuralgia in their clinics, but also to the patients and their relatives, who can get some idea on this troublesome illness and its treatment options. Despite our best efforts, there must be shortcomings in editing this book; I shall appreciate if the readers could send us their valuable feedbacks.

New Delhi, India

Girija Prasad Rath

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W. Umamaheshwara Rao and Muralidhar Joshi

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## About the Editor

**Girija Prasad Rath** is a Professor of Neuroanaesthesiology and Critical Care at Neurosciences Centre of All India Institute of Medical Sciences (AIIMS), New Delhi, India. He has received three years exclusive training in neuroanaesthesiology at AIIMS and is among the first batch of anaesthesiologists in India to hold a super-specialisation degree (DM-Neuroanaesthesiology). He is keenly interested in the education and clinical research activities related to neuroanaesthesia and neurocritical care. He has authored more than 200 scientific articles published in peer-reviewed journals of international repute. Dr. Rath is an editorial board member of the *Indian Journal of Anaesthesia* and has been working as the Executive Editor for the *Journal of Neuroanaesthesiology and Critical Care* (JNACC), since its inception. Dr. Rath is a Past Treasurer of Indian Society of Neuroanaesthesiology and Critical Care (ISNACC) and is an active member of international organisations like Society for Neuroscience in Anesthesiology and Critical Care (SNACC) and Asian Society for Neuroanesthesia and Critical Care (ASNACC). He is an invited speaker in the scientific meetings of various anaesthesia societies in India and abroad that includes EuroNeuro, World Congress of Anaesthesiologists (WCA), Neuroanaesthesia Symposium (NAS) of Malaysia, and ASNACC Singapore. Dr. Rath is a recipient of ICMR International Fellowship and is a Fellow of Indian College of Anaesthesiologists (FICA). His main areas of interest include awake craniotomy and neuroanaesthesia practices in children. Dr. Rath was involved in the first successful separation surgery of conjoined craniopagus twins in India and was felicitated for this achievement. He is also involved in the pain practice with special inclination towards the management of trigeminal neuralgia.