

Textbook of
**Ear, Nose, Throat and Head–Neck
Surgery** Clinical and Practical

Fifth
Edition

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Edition

is the thoroughly rewritten and revised textbook structured according to the Competency based Undergraduate Curriculum for the Indian Medical Graduate, with cross-references to competency codes as per the new CBME guidelines followed by National Medical Commission. The book also includes additional new chapters “Minor procedures and technique of instilling topical medications in ENT”, “National program for prevention and control of diseases in ENT”, and “Clinical ENT examination—workstation” to fulfill the present requirements. This edition of the popular comprehensive textbook covers theoretical, clinical and practical aspects of the subject, including the recent advances. The text has been improved and modified keeping in view the feedback of the students and the teachers of repute. New and latest information has been added, based on the recent developments in the specialty, to keep the book up-to-date and contemporary while adapting to the new syllabus.

It is a unique textbook written in a simple and lucid manner and elaborative form, and is a must for every undergraduate medical student who seeks to acquire knowledge in all the essential aspects of this subject. The postgraduate students will also find this book useful as a comprehensive manual at the initial stage and later as a preparatory manual for their examinations. The book is full of color illustrations and clinical material in an atlas form that will be useful for both the students as well as the practitioners. This also covers basic aspects of allied subjects like anesthesia, radiotherapy, chemotherapy, etc.

P Hazarika DLO, MS, FACS, FRCS (Edin), FIAO, FUWAI, FUICC is former Professor and Head, Department of ENT and Head–Neck Surgery, Kasturba Medical College, Manipal, former senior consultant at NMC Speciality Hospital, Abu Dhabi, and currently Consultant ENT Surgeon, Nemcare Hospital, Guwahati, Assam. He has more than 30 years of experience in clinical practice and 25 years in undergraduate and postgraduate teaching. He has to his credit over 100 papers published in national and international peer review medical journals, and was one of the most sought speakers in various conferences, live surgery workshops and medical education programmes in India and abroad. He was selected as an international guest scholar by the American College of Surgeons in 1986. He has traveled world-wide including the US, UK, Australia, Malaysia, Switzerland and Mauritius. He has designed ‘HRA voice prosthesis’ for alaryngeal patients. He was the first surgeon to introduce nucleus 22 channel cochlear implant in India in 1985. He also popularized the skull base surgery in early 90s’ in India. He has keen interest in head and neck and KTP-532 laser-assisted surgeries in ENT.

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**Ear, Nose, Throat and
Head–Neck Surgery**

Hazarika
Nayak
Balakrishnan

Textbook of
**Ear, Nose,
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Clinical and Practical



According to the latest CBME Guidelines |
Competency based Undergraduate
Curriculum for the Indian Medical Graduate

with
Indexes of Competencies

**P Hazarika
DR Nayak
R Balakrishnan**



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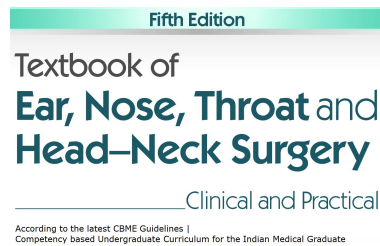


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ISBN: 978-93-54660-19-1

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Fifth Edition: 2022

First Edition: 2007

Second Edition: 2009

Revised Second Edition: 2012

Third Edition: 2013

Reprint: 2014, 2016, 2018

Fourth Edition: 2019

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Published by Satish Kumar Jain and produced by Varun Jain for

CBS Publishers & Distributors Pvt Ltd

4819/XI Prahlad Street, 24 Ansari Road, Daryaganj, New Delhi 110 002, India.

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Printed at Magic International Pvt. Ltd., Greater Noida, UP, India

Foreword to the Fifth Edition



MANIPAL
ACADEMY of HIGHER EDUCATION
(Institution of Eminence Deemed to be University)

It gives me great pleasure to be writing the foreword to the fifth edition of *Textbook of Ear, Nose, Throat and Head-Neck Surgery* authored by Dr P Hazarika, Dr Dipak Ranjan Nayak and Dr R Balakrishnan. The authors have used their decades of professional and teaching experience to the fullest in authoring this remarkable book. The first edition of the book was conceived and authored with major objective of creating a book that would focus on the needs of undergraduate students of otorhinolaryngology and to facilitate the understanding of the fundamentals of practice of otorhinolaryngology. That the book has achieved its objectives has been amply proved by the fact that the fifth edition of the book has become necessary within a period of 14 years. The fifth edition has been thoroughly revised with inclusion of recent advances and developments in the field of otolaryngology and head and neck surgery. One of the highlights of the fifth edition is the incorporation of necessary changes as per revised CBME curriculum and linking the essential competencies in the book. New chapters on Minor Procedures and Technique of Instilling Topical Medications in ENT, National Program for Prevention and Control of Diseases in ENT and Clinical Examination in ENT have been added. The

book has been written in a very lucid and simple language. The contents of the book are current, up-to-date and well researched. The chapters have been very well structured with illustrations and tables that have been very judiciously and imaginatively used to hold the interest and to emphasise important points for easy understanding and retention. Clinical photographs used are of very high resolution amply emphasising the clinical conditions. I am sure that this easy to read book will be immensely helpful to the undergraduate students of otorhinolaryngology in understanding the subject and will serve them well in their preparation for their examinations. This book will be extremely helpful to early postgraduate students also and will be a quick reference book. I congratulate the authors for their committed efforts towards authoring a quality book on Ear, Nose, Throat and Head-Neck Surgery for the benefit of undergraduate and postgraduate students. I once again congratulate the authors and publishers for this remarkable effort and I am sure that this fifth edition of *Textbook of Ear, Nose, Throat and Head-Neck Surgery* will be a welcome addition as a standard study material for students of otorhinolaryngology and should find a place in the library of all medical colleges.



Lt Gen (Dr) MD Venkatesh, VSM (Retd)
Vice-Chancellor

Foreword to the Fourth Edition

Since its first edition in 2007, *Textbook of Ear, Nose, Throat and Head–Neck Surgery* by Hazarika, Nayak and Balakrishnan has become a well established text among the leading undergraduate textbooks on the subject. The fourth edition is further improved and fully updated with the advances in the subject. It continues to be comprehensive in its scope, but is nevertheless concise. It is an excellent textbook which has served its readers well over the last decade. It remains popular among undergraduate students and is also a good guide to early postgraduate training.

The current edition is significantly improved by the efforts of the authors to seek active feedback from the end-users. Such feedback has ensured that the book stays contemporary and relevant for the students.

My congratulations to the authors for continuing with their zeal and effort and in bringing out an excellent textbook on the subject of otorhinolaryngology and head–neck surgery.

Prof Alok Thakar

MS, DNB, DLO (London), FRCSEd
Professor

Department of Otorhinolaryngology and Head–Neck Surgery
All India Institute of Medical Sciences
New Delhi

Foreword to the First Edition

Dr P Hazarika, Dr DR Nayak and Dr R Balakrishnan should be congratulated for writing this book *Textbook of Ear, Nose, Throat and Head-Neck Surgery*. The authors are committed to providing a textbook that can be used by undergraduate students, residents and practising doctors in the Indian perspective.

This book will be rewarding to become a resource of information for the readers and help in generating the interest to pursue this field of speciality. The knowledge acquired from this book will definitely help

in understanding the mechanism and management. The book contains 377 illustrations and line diagrams, 85 flowcharts, tables and 653 clinical operative photographs.

The authors have extensive training and experience in otorhinolaryngology and are certainly well qualified to do this work.

I believe that this book will be an excellent contribution to otorhinolaryngology and head and neck surgery.

Prof SK Kacker

MS, FRCS (London), FAMS

Otorhinolaryngologist (ENT Specialist)

Former

Professor and Head

Department of ENT

and

Director

All India Institute of Medical Sciences,

New Delhi

Preface to the Fifth Edition

With the introduction of competency-based medical education (CBME) after the newly formed National Medical Commission, there is a revamp in the medical education system as a whole for the undergraduate medical education and training. It is a great pleasure for us to bring out this completely revised and reformatted fifth edition of the textbook as per the CBME guideline. After its first edition in 2007, the second and third editions were formatted with a more compact manner, in 2009 and 2013 respectively. Taking into the consideration of the development in the field of our speciality and important feedback from the students and the faculty across the country, the fourth edition was revised drastically by our co-author Dr Nayak based on feedback from students and teachers. Further revision was done by him in the 5th edition as well based on feedback and as per CBME guideline. Our co-author Dr. Balakrishnan is instrumental in preparing and incorporating the index for competency-based

learning. Both of them have added several new photographs and illustrations and three new chapters—Minor Procedures and Technique of Instilling Topical Medications in ENT, National Program for Prevention and Control of Diseases in ENT and Clinical ENT Examination—Workstation. We are grateful to Dr Rakesh Shrivastav (Lucknow) for providing images for the chapter on narrow band imaging. We are also grateful to Prof Santosh K Kacker for writing the Foreword to the first edition, Prof Alok Thakar for writing the Foreword to the fourth edition and Lt Gen Prof MD Venkatesh, our Vice-Chancellor for writing the foreword to the fifth edition. We hope the present edition of the book will provide contemporary knowledge to readers, including undergraduate and postgraduate students, teachers and practicing doctors. We sincerely hope that the fifth edition of the textbook will be widely accepted and appreciated by the student community as well as the teachers.

**P Hazarika
DR Nayak
R Balakrishnan**

Preface to the First Edition

There are many undergraduate otolaryngology textbooks available, however, a textbook covering all the aspects of otolaryngology and head and neck surgery is a rarity in Indian perspective. The present multi-authored book covering the entire field of otolaryngology and head and neck surgery is very unique and informative from the MBBS student's viewpoint. It incorporates theoretical knowledge based on numerous developments in this speciality and also covers the clinical and practical aspects of the subject to help the students during their examinations.

The systematic organization of the chapters is necessary to retain a sensible balance while our knowledge has expanded in some areas more than the others. The chapters on recent advances, anesthesia and operative surgeries are incorporated to give a broad understanding and update in the knowledge of rapidly developing clinical otolaryngological practice.

Increased number of chapters with inclusion of clear and concise illustrations, clinical and operative methods and colour photographs of rare and interesting diseases, detailed description of the use of instruments has made this textbook very voluminous. The authors believe that this expansion is essential and necessary to inform the readers regarding the voluminous increase of knowledge

in our speciality. The authors have confined themselves in their chapters to deal only with contemporary questions and problems and together synthesize the information on recent advances. Numerous books and journals have been referred before offering the critical evaluation of the recent advances.

The cover page of this book is designed by Urvashi Patankar from London, who is a known graphic designer and has done a very good job. The senior author is instrumental in persuading her to take up this work. Cover page has rightly represented area of skull base, broncho-oesophagology along with general otorhinolaryngology.

This book contains 377 illustrations and line diagrams, 85 flowcharts and tables, and 653 number of clinical operative color photographs which make the study of this book more interesting and enjoyable.

It will be very rewarding for the authors, if this book becomes a resource of information for the readers and helps in generating the interest to pursue this field of speciality. The knowledge acquired from this book will definitely help in understanding the mechanism and management of the complication in the head and neck interface. This is critical to avoid diagnostic and surgical pitfalls while providing safe and effective care by practising otolaryngologist.

P Hazarika
DR Nayak
R Balakrishnan

Acknowledgements

It is after the completion of our work that we realize the immense necessity of writing this page, in an effort to acknowledge those who in all their possible ways have helped us in carrying out and completing this book. Of course, this small return in a few words is only a fraction of what we were given by them.

We take the privilege to express our profound sense of gratitude to late Prof. BR Das MBBS, DLO, FRCS (Edin), FRCS (Glas), Assam Medical College, who had a towering and divine influence in initiating this project of ours. We have the pleasure to place on record the concise and concrete suggestions as well as the goodwill offered to us by Dr LH Hiranandani, Dr Vishanathan and late Dr Mahadevaiah, in response to a few of our queries in connection with this book. We owe a deep sense of gratitude to these great teachers of otorhinolaryngology of our times including late Prof BR Das of Assam, Prof G Behera and MC Sahoo of Cuttack, Prof S Kacker, Prof K Kameshwaran, late Prof AL Mukherjee, Prof KK Ramlingam and Prof RC Deka. Our special thanks to Prof Santosh K Kacker, former Professor of ENT and Director, Dr Alok Thakar Professor of ENT-Head and Neck Surgery, AIIMS, New Delhi, for writing the 'Foreword' to the 1st edition and 4th edition respectively. We also Thank Lt Gen Prof MD Venkatesh, Vice Chancellor, MAHE for writing the 'Foreword' to the 5th edition. We are grateful to our founder beloved President of MAHE, Dr Ram Das M Pai, Pro Chancellor; Prof HS Ballal, former Vice Chancellor; Raj Warier and Dr Vinod Bhat of MAHE, and former Dean of KMC, Manipal, Dr RSP Rao, and Prof Sarath Rao, Dean KMC, Manipal, who kindly permitted us to carry on the work on this book in this institution lacking which, we fear, it would not have been possible to bring this work to light.

We appreciate the help of Prof RN Biswal, Prof Subrat Behera, Dr Chinmoy Sundar Ray, Dr KC Mallick of Cuttack and Dr K Samantrai from Bhubaneswar for providing crucial feedback and suggestions.

It is worthwhile to express a word of appreciation to our former faculties and postgraduates including Dr Suresh Pillai, Dr Sherry Jacob, Dr Parul Pujary, Dr Asha Kumar, Dr Jaspal Sahota, Dr Sajeev George, Dr SA Mallik, Dr Vivek C Abraham, Dr NLN Reddy, Dr A Suneel, Dr Navneet, Dr Avneesh, Dr Ajay Lavania, Dr Raghavendra Rao, Dr Ramananda Shetty, Dr Rodney Rodrigues, Dr Hemant, Dr Harish Kundaje, Dr Mahesh, Dr Ranveer, Dr Seema EP, Dr Pallavi, Dr Sunil, Dr Deepika, Dr Sajilal, Dr Aishwarya, Dr Vijaya, Dr Ramakrishna, Dr Deepa, Dr Archana, Dr Jyothi, Dr Gopi, Dr Abhishek, Dr Deichu and Dr Navneet, Dr Suraj, Dr Apoorva, for their

help in various capacity for the previous edition of this book. We are grateful to Dr P Kumararaja, Assistant Professor, Department of ENT, Medical College, Karimnagar, for his helps in the first edition.

We also deeply appreciate Kailesh Pujary, Prof and Head, and Dr Rohit Singh and Dr Ajay Bhandarkar, Associate Professor of ENT, KMC, Manipal, for their feedback and timely suggestions and constant encouragement, and help at the crucial stage of the work. We are thankful to our other faculties including Dr Ajay, Dr Shalini, Dr Devraj, Dr Shama, Dr Poorvi and Dr Nitu. We are thankful to Dr Prashant Prabhu, Asst Professor, for the timely correction, Dr Manushrut, former postgraduate in ENT, for helping in addition of targeted chemotherapy and IMRT to the second revised edition. We greatly appreciate and thank our past postgraduates Dr Apoorva Reddy, Dr Pooja, Dr Prashant, Dr Deeksha, Dr Nikhil, Dr Abhinaya, Dr Nikitha, Dr Archita, Dr Neethu, Dr Jalwa and Dr Aditi for their kind help in the previous edition. We appreciate the help of our present post graduates Dr Ishan, Dr Faria, Dr Tejashwi, Dr Ishan. We deeply appreciate the help by Dr Swetapadma Nayak, Resident, SCB Medical College, Cuttack for the proof reading and corrections for the 5th edition.

We are thankful to Prof Goel, Goa; Prof Mudhol of Belgaum, Prof. Mahesh of AJS, Mangalore and Prof Shreedharan, KMC, Mangalore; for their suggestions to improve this book.

We shall be failing in our duties if we do not offer our heartfelt gratitude to our parents late Mr and Mrs LC Hazarika; late Mrs and Dr B Nayak; and Prof KR Iyengar and Mrs Lakshmi Iyengar. We are also thankful to our wives and children, Mrs Reema Hazarika, Dr Manali Hazarika, Mrinmoy Hazarika, Mrs Sujata D Nayak, Shweta, Chinnu, Mrs Sudha Balakrishna, Ananthu and Srividya for their constant encouragement and support. Our former secretary Mrs Thulasi and present secretary Mrs Latha also deserves our thanks for help along with nonteaching staff of the department Mr Seetharam, Mrs Mangala, Mr Bhaskar, Mr Sudhakar, and Sister (Mrs) Shanthi, Mrs Malathi, Mrs Mohini, Mrs Usha, Mrs Baby, Mrs Vasanthi, Mrs Bhavani and Mrs Sujathja. We shall be failing in our duties unless we offer our gratefulness to our patients who so optimistically offer themselves to our surgical efforts to cure such diseases.

**P Hazarika
DR Nayak
R Balakrishnan**

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