

**The Best Seller**  
Gold Standard One Stop Book for ENT

**Most Updated and Latest Edition**

Covering all Recent Updates & Qs upto November 2021 Exams

The Comprehensive and Thoroughly revised fully-colored book on ENT

A highly appreciated and Gold Standard One Stop Book for Prenal, PGMEE/NEXT Exams. Prepared by ENT Specialist/Renowned Faculty

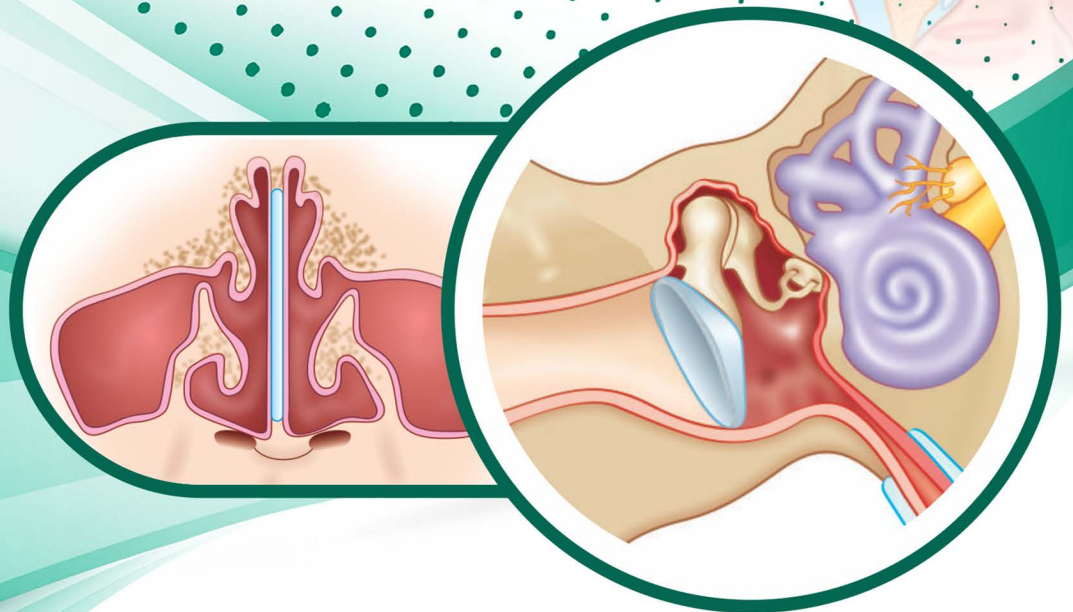
**6th**  
EDITION

# ENT for Entrance Exams (EEE)

Covering **2000+** Qs with explanation and  
**1000+** Colored Illustrations, Images and Flowchart

*As per the New Pattern Exams (NEXT) with many Clinical Case-based Questions*

INI-CET 2021-2020  
Recent Qs (Jan) 2020-2012  
AIIMS Nov 2019-2000



*Editor*

**Sachin Budhiraja**



CBS Publishers & Distributors Pvt. Ltd.

**Manisha Sinha Budhiraja**

# ENT for Entrance Exams (EEE)

---

Sixth Edition

---

**Manisha Sinha Budhiraja** MBBS (LHMC, Delhi)

MS (ENT), Safdarjung Hospital

Delhi University

DNB (ENT)

(manisha.budhiraja@yahoo.com)

*Editor*

**Sachin Budhiraja** MBBS (UCMS, Delhi)

MD (Medicine), Safdarjung Hospital

Delhi University

(sachin.budhiraja@yahoo.com)



**CBS Publishers & Distributors Pvt Ltd**

• New Delhi • Bengaluru • Chennai • Kochi • Kolkata • Lucknow  
• Mumbai • Hyderabad • Nagpur • Patna • Pune • Vijayawada

## ***Disclaimer***

Science and technology are constantly changing fields. New research and experience broaden the scope of information and knowledge. The authors have tried their best in giving information available to them while preparing the material for this book. Although, all efforts have been made to ensure optimum accuracy of the material, yet it is quite possible some errors might have been left uncorrected. The publisher, the printer and the authors will not be held responsible for any inadvertent errors, omissions or inaccuracies.

eISBN: 978-93-546-6816-6

Copyright © Authors and Publisher

**Sixth eBook Edition: 2022**

All rights reserved. No part of this eBook may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system without permission, in writing, from the authors and the publisher.

Published by Satish Kumar Jain and produced by Varun Jain for  
**CBS Publishers & Distributors Pvt. Ltd.**

**Corporate Office:** 204 FIE, Industrial Area, Patparganj, New Delhi-110092

Ph: +91-11-49344934; Fax: +91-11-49344935; Website: [www.cbspd.com](http://www.cbspd.com); [www.eduport-global.com](http://www.eduport-global.com);

E-mail: [eresources@cbspd.com](mailto:eresources@cbspd.com)

**Head Office:** CBS PLAZA, 4819/XI Prahlad Street, 24 Ansari Road, Daryaganj, New Delhi-110002, India.

Ph: +91-11-23289259, 23266861, 23266867; Fax: 011-23243014; Website: [www.cbspd.com](http://www.cbspd.com);

E-mail: [publishing@cbspd.com](mailto:publishing@cbspd.com); [eduportglobal@gmail.com](mailto:eduportglobal@gmail.com).

## ***Branches***

- 
- **Bengaluru:** Seema House 2975, 17<sup>th</sup> Cross, K.R. Road, Banasankari 2<sup>nd</sup> Stage, Bengaluru - 560070, Karnataka Ph: +91-80-26771678/79; Fax: +91-80-26771680; E-mail: [bangalore@cbspd.com](mailto:bangalore@cbspd.com)
  - **Chennai:** No.7, Subbaraya Street Shenoy Nagar Chennai - 600030, Tamil Nadu  
Ph: +91-44-26680620, 26681266; E-mail: [chennai@cbspd.com](mailto:chennai@cbspd.com)
  - **Kochi:** 36/14 Kalluvilakam, Lissie Hospital Road, Kochi - 682018, Kerala  
Ph: +91-484-4059061-65; Fax: +91-484-4059065; E-mail: [kochi@cbspd.com](mailto:kochi@cbspd.com)
  - **Mumbai:** 83-C, 1<sup>st</sup> floor, Dr. E. Moses Road, Worli, Mumbai - 400018, Maharashtra  
Ph: +91-22-24902340 - 41; Fax: +91-22-24902342; E-mail: [mumbai@cbspd.com](mailto:mumbai@cbspd.com)
  - **Kolkata:** No. 6/B, Ground Floor, Rameswar Shaw Road, Kolkata - 700014  
Ph: +91-33-22891126 - 28; E-mail: [kolkata@cbspd.com](mailto:kolkata@cbspd.com)

## ***Representatives***

- 
- **Hyderabad**
  - **Pune**
  - **Nagpur**
  - **Manipal**
  - **Vijayawada**
  - **Patna**

## *This book is dedicated to*

The Almighty; Who is the all-knowing,  
the all-pervading, the protector and the force behind everything.

My son Medhavi who gives meaning to my life.

My husband Sachin for being the light and strength of my life.

My parents Dr ARP Sinha and Mrs Kumud Sinha  
because of whom I am all that I am today.

My parents-in-law Shri KL Budhiraja and Mrs Geeta Rani  
whose support has been there always.

My Naani, Naana Ji, Maa and Lala Ji whose blessings will always  
be there and who will always remain in my sweet memories.

*and*

*most importantly to all my dear students*

**STAND UP, BE BOLD, BE STRONG**

*Take the whole responsibility on your own shoulders, and  
know that you are the creator of your own destiny.*

*All power is within you;  
you can do anything and everything.*

*Believe in that.*

*"I will drink the ocean" says the persevering soul,  
"at my will, mountains will crumble up".  
Have that sort of energy, that sort of will,  
work hard and you will reach the goal.*

**—Swami Vivekananda**

For queries, valuable feedback and suggestions please write to  
[manisha.budhiraja@yahoo.com](mailto:manisha.budhiraja@yahoo.com)  
[sachin.budhiraja@yahoo.com](mailto:sachin.budhiraja@yahoo.com)

Also join us at

[www.facebook.com/groups/manishasachin/](http://www.facebook.com/groups/manishasachin/)  
[www.facebook.com/groups/sachinmanisha/](http://www.facebook.com/groups/sachinmanisha/)

# Preface to the Sixth Edition

We would like to thank all our students for the overwhelming response they have given to this book. It gives us the enthusiasm to improve this book further by adding some extra features in this 6th edition.

The key additions are:

1. All chapters have been **thoroughly updated and revised**.
2. The text has been made **further easy** with many **new flowcharts** and **tables**.
3. **Clinical questions** have been added in between the text in all chapters according to the recent pattern of entrance exams. These questions will give our students an edge over the others as by learning these questions, they will not only solve the clinical pattern exam questions with authority but also become better clinicians.
4. **Clinical integration** has been done with other subjects in the relevant topics which will help in both answering questions as well as treating patients better.
5. A **separate chapter for clinical approach and quick revision** to diseases of the ear, nose, pharynx and larynx has been added at the end of each section. This will help the students revise the entire section in very little time which will be a boon for revising before the exams.
6. A lot of **clinical pictures** have been added to help students understand the topics better and to help them solve the image-based questions in exams.
7. **High yield points** have been added at the end of each chapter.
8. All the **MCQs of the recent exams** have been added.
9. Annexures for quick revision have been included.
10. New chapters have been inserted in the section of Larynx according to the need of exams.

Whether they are the prefinal-year students or the students preparing for entrance, the key to success is to understand every topic rather than cramming up the facts and the answers to the questions. Also with the change of the pattern of the exams to a totally clinical one, understanding becomes all the more important. Understanding makes you remember the topics as well as solve new MCQ's from each topic. It also gives you an edge over the others as even the questions that are repeated are not asked in the same manner again.

We have tried our best to make this a one-stop book for preparation of all entrance exams as well as undergraduate university exams. The text contains everything that a student is supposed to know in a particular topic. Also the clinical questions and MCQ's in each chapter are sufficient for all the postgraduate entrance exams. This will save your precious time as you don't have to refer to many other books.

We hope, you will utilize all our efforts and you will love reading this book as much as we have loved writing it. Your suggestions for further improvements are always welcome.

*All the best and God bless!*

**Manisha Sinha Budhiraja**

**Sachin Budhiraja**



# Preface to the First Edition

ENT (Otorhinolaryngology) is an extremely scoring subject in the MBBS curriculum. Being a teaching faculty of ENT for the past 10 years in the various institutes, I have been closely associated with the students preparing for postgraduate entrance exams.

Almost invariably, after every lecture, students would approach me to know which book to read for ENT for the preparation of PG entrance exams, considering the short time available with many subjects to prepare.

It was then, that I realised the need for a one stop book of ENT containing everything relevant to meet the requirement of students so that consulting many books for text as well as MCQs for ENT can be avoided.

It was a difficult decision considering the time that would be required to accomplish it, which would be very difficult to take out from my busy schedule. But with tremendous perseverance and willpower and unstinting support of my husband, Dr Sachin Budhiraja, this book has grown out of my years' long experience in teaching.

Each chapter contains an enriched, concise text written in very simple, easy-to-understand language. I have tried to illustrate the book extensively with simple explanatory line diagrams along side. Several easy-to-grasp mnemonics have been given throughout the text to make learning easy. All the topics have been thoroughly scrutinized so as to ensure that no stone is left unturned.

Once the text is read and the concepts are clear, the students will be able to answer not only the previously asked MCQs but also the questions likely to come in future exams.

The text is followed by previously asked MCQs in various PG entrance exams across India along with their answers and explanations.

In spite of keeping an eagle's eye, some imperfections are bound to remain. Suggestions for improvement are most welcome.

I hope this book proves to be useful to readers and they will enjoy reading it as much as I enjoyed writing it.

**Manisha Sinha Budhiraja**

MS (ENT), DNB (ENT)

[manisha.budhiraja@yahoo.com](mailto:manisha.budhiraja@yahoo.com)



# Editor's Note

The author, my wife, Dr Manisha Sinha Budhiraja has done a tremendous effort and has finally come up with a very good book on ENT.

The book reflects the vast teaching experience and absolute command of the author over the ENT subject.

She has herself made all the diagrams in Section I and many a diagram of other sections as well, in the book.

She is not only a very good human being but also a perfect mother. She is the best teaching faculty and a great clinician and surgeon as well. Sometimes I wonder how many qualities a person can have simultaneously!

I am sure that this book *ENT for Entrance Exams (EEE)* will be of great help to the students.

I have thoroughly and repeatedly read this book as a student to point out the areas which require more simplification and further elaboration for better understanding.

I have thoroughly edited this book with the help of the author and placed tables and added mnemonics wherever required.

Being a consultant in medicine, my expertise in this subject has helped to make the concepts clearer in the areas where there is a cross link of ENT with Medicine, for example, vestibular system and stridor, etc.

This is the first of its kind book in the ENT. All the chapters contain an up-to-date, concise text followed by all the possible MCQs available, of various PG entrance exams.

Written in an easy-to-understand language, the other USP of this book is that all the choices given in the MCQs have been commented upon which will help the students to solve further new questions.

This book will definitely be of help to:

1. All the students preparing for various PG entrance exams.
2. All the undergraduate students, while giving *viva voce* and MBBS professional exams.
3. Postgraduate students for a quick revision and understanding of ENT in the beginning of their course.

Purity, patience and perseverance are the three essentials to success, and above all, love!

*All the Best and God Bless!*

**Sachin Budhiraja**

MD (Medicine)

sachin.budhiraja@yahoo.com

# Acknowledgments

I owe this effort to many people without whose help this book would have remained just a dream.

Words cannot describe the contribution of my husband Sachin, who besides being the editor is also the typist of this book, and my son Medhavi, my parents, my sisters Rasluni and Swati & Anand for their constant support throughout and not letting me give up at any moment.

I would like to acknowledge the guidance of Prof. Dr VP Venkatachalam, Dr Gui Motwani, Dr NN Mathur, Dr S Mandal, Dr Neena Chaudhary, Dr Himani Lade, Dr S Majhi, Dr Deepak Gupta, Dr Tilak Raj, Dr Naresh Bharadwaj, Dr Niranjana, Dr Vikas all faculty in the department of ENT at Safdarjung Hospital, Delhi and Dr B Gupta (Head, Department of Medicine, Safdarjung Hospital) and Dr Kalpana Uppal (Head of the Department, ABGH, Moti Nagar, Delhi) and all my teachers at Lady Hardinge Medical College, Delhi.

I convey my sincere thanks to Dr Gobind Rai Garg (MD, Pharmacology) for giving his valuable advice whenever needed.

Although it is impossible to acknowledge the contribution of every one individually, I extend my heartfelt thanks to:

- Akarsh, Arjun, Medhavi, Madhav, Raghav, Shivani, Anchit, Dr Kisley Dayal and other family members.
- Dr ARP Sinha (Ex Principal, JNRM Govt. College, Port Blair) for the beautiful diagrams of nose and pharynx sections.
- Ms Rashmi Sethi, a wonderful person, teacher and artist, for the beautiful diagrams of larynx section.
- Mr Sunil, Lakhya Arts for the beautiful diagrams of pharynx.
- My seniors Dr Friji MT, Dr Sanjay Aggarwal, Dr Alok, Dr Kadambari, Dr Sanjeev, Dr Nitin, Dr Dravid.
- My colleagues Dr Bulbul Gupta, Dr Sameer Sethi, Dr Pooja Gambhir, Dr Siddharth, Dr Rajeev, Dr Lalming, Dr Natesh.
- My juniors Dr Priya, Dr Payal, Dr Deepti, Dr Sameer, Dr Dipti, Dr Ashutosh, Dr Sarav Jeet Singh, Dr Arti, Dr Saurabh, Dr Radha, Dr Shveta, Dr Himanshu, Dr Amrita.
- Dr Mukesh Kumar Joon (OM, Cardiologist), Dr Rashmi Joon (MD, Obs & Gynae), Dr Nitin Arora (MD, Paeds), Dr Harpreet Kaur Jassi (MD, Obs & Gynae), Dr Deb Datta Mazumdar (OM, Cardio), Dr Anish Singhal (MD, Medicine), Dr Ratnesh Kanwar (MD, Medicine), Dr Rajeev Singhal (MD, Medicine), Dr Pankaj Tikku (MD, Paeds), Dr Raman Allawadi (MD, Paeds), Dr SP Singh (MD, Skin), Dr Deepali and Anuj Gupta (MD, Paeds), Dr Dinesh Chauhan (MD, Biochemistry), Dr Neelam (MD, Pathology), Dr Swati (MD, Anaesthesia), Dr Ashish Goel (MS, Ortho), Dr Dinesh (MS, Anatomy), Dr Vipin Daga (MD, Radiology), Dr Vipin Nagpal (MS, Surgery), Dr Vineet (MS, Surgery), Dr Rajeev Dhawan (MS, ENT), Dr Deepak Arora (MS, ENT), Dr Vandana (MD, Paeds), Dr Parul and Mrs Shabana Yunus.
- All my students specially Dr Prakriti, Dr Vasu, Dr Sabiya, Dr Afzal who have made the effort to point out the areas which needed further simplification and improvement.

I also owe my sincere thanks to Mr Ganesh, Mrs Janki, Dr Suyog Sahu, Mr Neeraj Salunke, for their cooperation, help and support.

Last but not the least, I extend my special thanks to **Mr Satish Kumar Jain** (Chairman) and **Mr Varun Jain** (Managing Director), M/s CBS Publishers and Distributors Pvt Ltd for their wholehearted support in publication of this book.

I sincerely extend my thanks to the entire CBS team for bringing out the book with utmost care and attractive presentation.

Each and every book published by CBS Publishers is adorned with the presence of Bhagwan Mahavir, Whose blessings help me to enlighten the coming generation through knowledge.

# List of References

1. Shambaugh—Surgery of the Ear, 6th Edition
2. Scott-Brown's, Otolaryngology, Head and Neck Surgery, 8th Edition
3. Stell and Moran's, Head and Neck Surgery, 5th Edition
4. Current Diagnosis and Treatment Otolaryngology Head and Neck Surgery, 3rd Edition
5. Otolaryngology, Head and Neck Surgery, Cummings, 6th Edition
6. Otolaryngology, M Paparella, 3rd Edition
7. Diseases of Ear, Nose and Throat and Head and Neck Surgery, PL Dhingra, 6th Edition
8. Ear, Nose, Throat and Head and Neck Surgery, P Hazarika, 4th Edition
9. Otorhinolaryngology, Zakir Hussain, 3rd Edition
10. ENT Journals
11. Harrison's Principles of Internal Medicine, 20th Edition
12. Current Medical Diagnosis and Treatment (CMDT), 2020
13. The Neurologic Examination, De Jong's
14. Human Anatomy, BD Chaurasia, 7th Edition
15. Human Embryology, Inderbir Singh
16. Tintinalli's Emergency Medicine, 8th Edition
17. Clinical Audio-Vestibulometry, Anirban Biswas, 5th Edition
18. Exam Preparation in ENT and Head-Neck Surgery with Many Easy to Remember One-lines, JP Purohit

Join us at

[www.facebook.com/groups/manishasachin/](http://www.facebook.com/groups/manishasachin/)  
[www.facebook.com/groups/sachinmanisha/](http://www.facebook.com/groups/sachinmanisha/)

# Contents

<i>Preface to the Sixth Edition</i> .....	v
<i>Preface to the First Edition</i> .....	vii
<i>Editor's Note</i> .....	viii
<i>Acknowledgments</i> .....	ix

## **Section I: Ear** **1–220**

1. Embryology and Anatomy of Ear .....	3
2. Physiology of Hearing and Audiology.....	41
3. Vestibular Physiology and Assessment of Vestibular Function .....	71
4. Diseases of External Ear.....	83
5. Acute Infections of Middle Ear.....	95
6. Serous Otitis Media, Functions of Eustachian Tube, Otitic Barotrauma .....	101
7. Tubotympanic or Chronic Mucosal Otitis Media .....	111
8. Atticoantral or Squamous Chronic Otitis Media .....	119
9. Complications of Suppurative Otitis Media .....	131
10. Otosclerosis .....	145
11. Facial Nerve and its Disorders .....	153
12. Ménière's Disease and Disorders of Vestibular System .....	169
13. Tumors of External and Middle Ear .....	189
14. Acoustic Neuroma/Vestibular Schwannoma .....	195
15. Cochlear Implant, Brainstem Implant, BAHA, ABI and Hearing Aids .....	203
16. Clinical Approach and Quick Revision of the Diagnosis and Treatment of Ear Diseases .....	213

## **Section II: Nose** **221–342**

17. Congenital Lesions, Anatomy and Physiology of Nose and Paranasal Sinuses.....	223
18. Diseases of External Nose .....	249
19. Diseases of Nasal Septum .....	253
20. Acute and Chronic Rhinitis .....	259
21. Rhinosinusitis .....	267
22. Nasal Polyps .....	291
23. Granulomatous Conditions of the Nose .....	301
24. Epistaxis .....	307
25. Fractures of Face and CSF Rhinorrhea .....	317
26. Tumors of Nose and PNS .....	329
27. Clinical Approach and Quick Revision of the Diagnosis and Treatment of Diseases of Nose.....	335

## **Section III: Oral Cavity and Pharynx** **343–415**

28. Anatomy and Embryology of Oral Cavity and Pharynx.....	345
29. Adenoid Hypertrophy and Thornwaldt's Bursitis .....	359
30. Angiofibroma .....	365

31. Nasopharyngeal Carcinoma .....	371
32. Tonsils .....	377
33. Abscesses of Pharynx .....	389
34. Pharyngeal Pouch .....	399
35. Oral Cancers and Miscellaneous Conditions.....	403
36. Clinical Approach and Quick Revision of the Diagnosis and Treatment of Diseases of Pharynx.....	413

#### **Section IV: Larynx**

**417–530**

37. Anatomy of Larynx .....	419
38. Acute and Chronic Infections of the Larynx .....	431
39. Voice and Speech Disorders.....	441
40. Functional and Neuromuscular Disorders Affecting Voice .....	451
41. Congenital Lesions of Larynx and Laryngocele.....	455
42. Vocal Cord Palsy .....	463
43. Laryngeal Papillomatosis, Carcinoma Larynx and Occult Primary with Neck Secondary .....	479
44. Tracheostomy .....	495
45. Stridor and Foreign Body Air Passages.....	503
46. Laryngotracheal Trauma and Laryngotracheal Stenosis in Adults.....	509
47. Obstructive Sleep Apnea .....	513
48. Clinical Approach and Quick Revision of the Diagnosis and Treatment of Diseases of Larynx .....	517
49. Lasers in ENT.....	525
50. Otolaryngologic Manifestations of HIV .....	529

#### **Section V: Important Instruments in ENT**

**531–546**

51. Important Instruments used for Ear, Nose and Throat Examination and Surgery.....	533
<i>Annexures</i> .....	547–551
I. Childhood Hearing Impairment.....	547
II. Named Clinical/Radiological Signs, Syndromes, Tests, Findings, Procedures, Structures and Organisms in ENT .....	548
III. Microbes Involved in ENT Infections .....	549
IV. Surgeries/Procedures in ENT .....	550