

ATLAS OF FIBEROPTIC BRONCHOSCOPY



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Foreword
D Behera

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Contents



1. History of Bronchoscopy	1
2. Normal Bronchial Anatomy and Nomenclature	2
• Upper Airway	2
• Lower Airway	3
• Nomenclature of the Tracheobronchial Tree	9
• Endoscopic Visualization	9
• Categorization of Bronchoscopic Findings	10
3. Abnormal Patterns of Bronchial Anatomy	19
• Anomalies of Bronchus	19
4. Machine and Instrumentation	22
• Flexible Fiberoptic Bronchoscope	22
• Light Source	23
• Fiberoptic Bronchoscope Accessories	23
• Bronchoscopy Suite	26
• Ventilation Requirements	26
• Mobile or Portable Bronchoscopy Unit	27
• Single Use and Reusable Flexible Bronchoscopes	27
5. Cleaning, Disinfection, and Sterilization of Fiberoptic Bronchoscopes and Other Accessories	28
• Care of Bronchoscopes	28
• Safety Precautions for Personnel Disinfecting the Bronchoscope	29
6. Indications and Contraindications for Fiberoptic Bronchoscopy	30
• Diagnostic Indications	30
• Therapeutic Indications	31
• Contraindications	31
7. Prerequisites for Performing Bronchoscopy	33
• Pre-bronchoscopic Evaluation	33
8. Topical Anesthesia	35
• Local Anesthetics	35
• Techniques for Topical Anesthesia	36
• General Anesthesia	38

9. Fiberoptic Bronchoscopy Procedure	39
• Procedure for Fiberoptic Bronchoscopy	39
10. Specimen Collection	44
• Brush Biopsy	44
• Bronchial Washing	45
• Endobronchial Forceps Biopsy	45
• Transbronchial Needle Aspiration	46
• Bronchoalveolar Lavage	47
• Transbronchial Lung Biopsy	49
• Biopsy from Peripheral Mass Lesions	51
• Cryobiopsy	51
11. Staging of Bronchogenic Carcinoma by Bronchoscopy	53
• Staging of Bronchogenic Carcinoma	53
12. Complications	56
• Premedication	56
• Local Anesthesia	56
• Hypoxia	56
• Hypercarbia	57
• Bronchospasm	57
• Hemodynamic Effects of Bronchoscopy	57
• Cardiac Arrhythmias	57
• Infectious Complications	57
• Other Complications	58
13. Bronchoscopy-induced Hemorrhage	60
• Predisposing Factors	60
• Treatment of Bronchoscopy-induced Hemorrhage	60
• Prevention of Bronchoscopy-induced Hemorrhage	62
14. Pediatric Bronchoscopy	64
• Anatomical Considerations	64
15. Advances in Fiberoptic Bronchoscopy	67
• Use of Laser in Bronchoscopy	67
• Endobronchial Electrocautery	67
• Argon Plasma Coagulation	68
• Cryotherapy for Endobronchial Lesions	68
• Endobronchial Brachytherapy	68
• Photodynamic Therapy	68
• Tracheobronchial Stenting	69
• Autofluorescence Bronchoscopy	69
• Indications for Fluorescence Endoscopy	69
• Endobronchial Ultrasound	70

16. Electromagnetic Navigational Bronchoscopy	72
• Components	72
• Complications	73
• Therapeutic Applications	73
17. Bronchoscopy in COVID	75
• Role of Bronchoscopy in COVID-19	
• Challenges and Risks of Bronchoscopy during COVID-19	75
• Guidelines for Safe Bronchoscopy in COVID-19	75
• Recent Innovations and Future Directions	76
18. Bronchoscopy in Intensive Care Unit	77
• Applications of Bronchoscopy in the Intensive Care Unit	77
• Challenges and Risks of Intensive Care Unit Bronchoscopy	77
• Safety Measures and Best Practices for Intensive Care Unit Bronchoscopy	78
• Advances in Intensive Care Unit Bronchoscopy	78
19. Bronchoscopic Foreign Body Removal	80
• Why Undergo a Bronchoscopy?	80
• Types of Bronchoscopes	80
• Procedure for Bronchoscopic Removal	80
• Instruments Used in Removal of Foreign Body	80
• Challenges and Complications	82
• Advances in Bronchoscopic Techniques	82
20. Endoscopic Management of Bronchopleural Fistula	83
• Etiology and Pathophysiology	83
• Role of Bronchoscopy in Bronchopleural Fistula Management	83
• Patient Selection and Preprocedural Considerations	84
• Post-procedural Care	84
• Outcomes and Limitations	84
21. Clinical Pearls: Bronchoscopic Findings in Benign Pulmonary Diseases	85
• Case 1: Endobronchial Polyp in a 25-year-old Female	85
• Case 2: Bronchial Carcinoid in a 22-year-old Female	85
• Case 3: Carcinoid Tumor in a 26-year-old Male	87
• Case 4: Ruptured Hydatid Cyst in a 31-year-old Male	88
• Case 5: Sarcoidosis in a 45-year-old Male	88
• Case 6: Sarcoidosis in a 38-year-old Female	88
• Case 7: Lymphotracheal Fistula in a 30-year-old Male	91
• Case 8: Endobronchial Tuberculosis in a 30-year-old Female	91
• Case 9: Endobronchial Tuberculosis in a 26-year-old Female	94
• Case 10: Endobronchial Tuberculosis in a 44-year-old Female	94
• Case 11: Endobronchial Tuberculosis in a 44-year-old Male	97
• Case 12: Tuberculous Endobronchial Sinus in a 21-year-old Male	97

- Case 13: Chronic Bronchitis in a 50-year-old Male 99
- Case 14: Bronchiectasis in a 30-year-old Male 100
- Case 15: Bronchiectasis in a 50-year-old Male 101

22. Case Reports: Bronchoscopic Findings in Malignant Pulmonary Diseases 102

- Case 16: Squamous Cell Carcinoma in a 51-year-old Male 102
- Case 17: Squamous Cell Carcinoma in a 53-year-old Male 102
- Case 18: Squamous Cell Carcinoma in a 58-year-old Male 102
- Case 19: Squamous Cell Carcinoma in a 71-year-old Male 104
- Case 20: Squamous Cell Carcinoma in a 52-year-old Male 104
- Case 21: Squamous Cell Carcinoma in a 60-year-old Male 104
- Case 22: Squamous Cell Carcinoma in a 50-year-old Male 106
- Case 23: Squamous Cell Carcinoma in a 50-year-old Male 107
- Case 24: Squamous Cell Carcinoma in a 50-year-old Male 108
- Case 25: Squamous Cell Carcinoma in a 45-year-old Female 108
- Case 26: Squamous Cell Carcinoma in a 56-year-old Male 108
- Case 27: Squamous Cell Carcinoma in a 53-year-old Male 110
- Case 28: Squamous Cell Carcinoma in a 65-year-old Male 111
- Case 29: Squamous Cell Carcinoma in a 55-year-old Male 111
- Case 30: Squamous Cell Carcinoma in a 55-year-old Male 113
- Case 31: Adenocarcinoma in a 53-year-old Male 115
- Case 32: Squamous Cell Carcinoma in a 47-year-old Male 116
- Case 33: Squamous Cell Carcinoma in a 58-year-old Male 116
- Case 34: Adenocarcinoma in a 40-year-old Male 118
- Case 35: Squamous Cell Carcinoma in a 60-year-old Male 119
- Case 36: Large Cell Carcinoma in a 70-year-old Male 119
- Case 37: Adenocarcinoma in a 65-year-old Female 119
- Case 38: Squamous Cell Carcinoma in a 55-year-old Male 122
- Case 39: Small Cell Carcinoma in a 53-year-old Male 123
- Case 40: Adenocarcinoma in a 45-year-old Female 124
- Case 41: Large Cell Carcinoma in a 45-year-old Male 125
- Case 42: Squamous Cell Carcinoma in a 61-year-old Female 125
- Case 43: Adenosquamous Cell Carcinoma in a 40-year-old Male 125
- Case 44: Squamous Cell Carcinoma in a 71-year-old Female 128
- Case 45: Squamous Cell Carcinoma in a 50-year-old Male 129
- Case 46: Large Cell Carcinoma in a 56-year-old Male 129
- Case 47: Squamous Cell Carcinoma in a 38-year-old Male 131
- Case 48: Squamous Cell Carcinoma in a 53-year-old Female 131
- Case 49: Squamous Cell Carcinoma in a 45-year-old Male 131
- Case 50: Squamous Cell Carcinoma in a 60-year-old Male 133
- Case 51: Large Cell Carcinoma in a 70-year-old Male 133
- Case 52: Squamous Cell Carcinoma in a 55-year-old Male 135
- Case 53: Bronchioloalveolar Carcinoma in a 50-year-old Male 135
- Case 54: Squamous Cell Carcinoma in a 52-year-old Male 135

- Case 55: Small Cell Carcinoma in a 70-year-old Male 137
- Case 56: Small Cell Carcinoma in a 51-year-old Male 137
- Case 57: Small Cell Carcinoma in a 56-year-old Male 139
- Case 58: Squamous Cell Carcinoma in a 65-year-old Male 141
- Case 59: Squamous Cell Carcinoma in a 48-year-old Male 141
- Case 60: Squamous Cell Carcinoma in a 40-year-old Male 143
- Case 61: Squamous Cell Carcinoma with Superior Vena Cava Syndrome in a 61-year-old Male 143
- Case 62: Squamous Cell Carcinoma in a 65-year-old Male 145
- Case 63: Tracheoesophageal Fistula by Squamous Cell Carcinoma Esophagus in a 48-year-old Male 148
- Case 64: Undifferentiated Carcinoma in a 70-year-old Female 148

Index 151

History of Bronchoscopy

Kirstein visualized the interior of a patient's larynx directly with O'Dwyer's tube in 1885. It was in 1897, that Gustav Killian from the University of Freiburg, Germany, known as the 'father of bronchoscopy', who reportedly investigated the lower trachea and main stem bronchi using a Kirstein laryngoscope.¹ Later by the year 1905, Professor Chevalier Jackson,² improved on the rigid bronchoscope and established bronchoscopy as a standard diagnostic tool. Professor Inokichi Kubo of Kyushu University, Japan, who studied at Professor Killian Laboratory in 1907, was the first to practice bronchoscopy. In spite of many improvements, the rigid bronchoscope namely the early Jackson type had a poor level of illumination and limited visual field.

However, with the progress of thoracic surgery, the need for bronchoscopy increased, which led to a technically improved bronchoscope and the development of new fields of diagnosis. The widespread use of the improved Jackson type bronchoscope motivated, further improvement of the bronchoscope. Kozuki and Horie³ developed and improved the high power illumination system, using a Xenon discharge as a source of light. In addition, they developed the rigid bronchoscope using glass fibers as a light guide. Dr Shigeto Ikeda,⁴ introduced the first commercially available flexible fiberoptic bronchoscope in 1967. It has an outer diameter of 4 to 6 mm, is soft and its tip can be moved through an angle

of 150° to 180°. The fiberoptic bronchoscope's tip has a wide range of viewing angle ranging from 55° to 120°. So as against the old bronchoscope, which could visualize only the proximal bronchus, the fiberoptic bronchoscope has an extended visualization up to the 4th order subsegmental bronchi. In addition, its visual images are strikingly clear in spite of using glass fibers. It also helps in the collection of specimens by using biopsy forceps or brushes and these specimens can be examined in a variety of ways.

Ikeda has also been the forerunner in the development of video bronchoscopy. He introduced a prototype video bronchoscope in 1987.⁵ This system eliminated the optical fiber bundle and replaced it with a charge-coupled device (CCD) image sensor, that transmits the image to a video bronchoscope for display on a television monitor. The advances of the video bronchoscope are its improved resolution and its ability to manipulate a digitalized signal on various recording medias. The video bronchoscope offers the potential to become the next generation instrument for visualizing the tracheobronchial tree. The use of the flexible fiberoptic bronchoscope has spread widely and procedures using this instrument has become a routine among physicians, surgeons and radiologists. Today it is said that, no physician specializing in respiratory medicine is considered adequately trained, unless competent with the bronchoscope.

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ATLAS OF FIBEROPTIC BRONCHOSCOPY

Fiberoptic bronchoscopy is now frequently used to investigate and treat various pulmonary diseases, especially the bronchogenic carcinoma. Professor Rajendra Prasad brought out this beautifully illustrated atlas out of his long experience of using fiberoptic bronchoscope in over 10,000 cases in the last 30 years. This book was written with the aim of defining an approach to the diagnosis of various pulmonary diseases encountered in day-to-day clinical practice essentially based on abnormal bronchoscopic findings. The text consists of two parts, the first—a practical introduction to the art of bronchoscopy, and the second—a concise clinical history, chest X-ray, computed tomography (CT), and bronchoscopic pictures of interesting cases, selected out of 5,000 bronchoscopic procedures done in the last 25 years. The first part also specifies all practical issues related to performance of fiberoptic bronchoscopy including indications, contraindications, normal and abnormal bronchoscopic findings, specimen collection, and related complications. It also includes a chapter on pediatric bronchoscopy and future advances in fiberoptic bronchoscopy. Undergraduates, interns, postgraduate medical students, chest physicians, general physicians, and pediatricians having special interest in pulmonary diseases, thoracic surgeons, and otolaryngologists will find this book as practical guide.

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