

Contents



Section 1 Basic Principles and Procedures

1. Introduction: The History, Evolution and Development of Phonomicrosurgery 3
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Introduction to phonosurgery, phonating larynx, mirror laryngoscopy, laryngeal skeleton

2. Patient Selection 5
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Patient selection and consent, preoperative objective voice assessment, documentation, timing of voice surgery, obvious vocal fold vascular engorgement, premenstrual vocal fold hemorrhages, vocal fold cysts and polyps, coagulopathy

3. Anatomy and Physiology of the Voice: A Brief Overview 8
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Anatomy of the voice, larynx, laryngectomy, intrinsic muscles of the larynx, glottis, arytenoid cartilages, false vocal folds, lubricated squamous epithelium, lamina propria, supraglottic vocal tract, infraglottic vocal tract, neural control, extrapyramidal and autonomic nervous systems, sound production, resonance, pitch and loudness control, mucosa assessment

4. Preoperative Voice Evaluation and Care 16
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
The history, comprehensive discussion on proper patient selection and preparation, surgical field, laryngopharyngeal reflux, muscle tension dysphonia, strobovideolaryngoscopy, flexible laryngoscopy, voice measures, informed consent, timing of voice surgery and related considerations

5. Indirect Laryngoscopy 18
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Indirect laryngoscopic surgery, topical anesthesia, flexible fiberoptic laryngoscope, external injection, transoral injection, surgical techniques

6. Direct Laryngoscopy 21
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Suspension microlaryngoscopy, stereoscopic vision, anterior commissure, laryngoscope suspension system

7. Anesthesia 25
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Local anesthesia, greater cornu of the thyroid cartilage, greater cornu of the hyoid bone, glossopharyngeal nerve blocks, endotracheal intubation, mucosal irritation, methemoglobinemia, general anesthesia, intubation and extubation

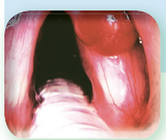
8. Instrumentation 28
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Magnification, long-handled laryngeal instruments, laryngeal telescopes, contact endoscopy, microlaryngeal instruments, nonreflective instruments, powered instruments, microdissection

9. Submucosal Infusion and Laryngeal Microsurgery 35
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Concept of laryngeal infusion, submucosal infusion, complications

10. Laryngeal Laser Surgery 36
Jean Abitbol, Robert T Sataloff
Laser surgery, characteristics of lasers, phonomicrosurgery, argon laser, Nd-YAG laser, KTP (potassium, titanyl, phosphate) crystal laser, dye laser photodynamic therapy, pulsed dye laser, pulsed KTP laser, diode laser and its limitations, CO_2 laser and its limitations, laser tissue interaction, phonomicrosurgical procedures, microlaryngoscopy procedures, anesthesia techniques, risks and complications, principles of CO_2 laser phonomicrosurgery, laser phonomicrosurgical techniques for types of lesions, complications of laser phonomicrosurgery

11. Voice Cosmesis: The Voice Lift 52
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Voice lessons, vocal habilitation, neuromuscular retraining, injection laryngoplasty, voice lift

12. Postoperative Voice Care 54
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Voice rest, scar formation, steroids, antireflux medications, voice therapy, individual considerations



Section 2 Benign Structural Lesions

13. Vocal Fold Cysts 59
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Congenital cysts, acquired cysts, differentiation of cysts, management of vocal fold cysts, microflap technique, contralateral vocal fold, surgical techniques

14. Vocal Fold Nodules 69
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Position of vocal fold nodules, striking zone, voice therapy, vocal fold nodules in children, surgical techniques

Prelims.indd xii 9/8/2010 3:12:30 Gopal

15. Vocal Fold Polyps 76
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Polyps, functional effect of polyps, surgical techniques

16. Varicosities, Ectatic Vessels and Vocal Fold Hemorrhage 85
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Hemorrhage in the vocal folds and mucosal disruption, ectasias and varices, surgical techniques

17. Reinke's Edema 91
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Polypoid degeneration, polypoid corditis, edematous hypertrophy, localized compensatory Reinke's edema, surgical techniques

18. Granulomas and Vocal Process Ulcers 98
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Occurrence of granulomas, etiologies of granulomas, uses of botulinum toxin, surgical techniques

19. Papilloma 106
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Diagnosis of papillomas, resection of laryngeal papilloma, use of cidofovir, surgical techniques

20. Supraglottoplasty 115
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Cause of stridor, effects of laryngomalacia, children with laryngomalacia, supraglottic mucosal redundancy, surgical techniques

21. Vocal Fold Scar 119
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Symptomatic vocal fold scar, therapy for vocal fold scar, surgery for vocal fold scar, medialization techniques, surgical techniques

22. Sulcus Vocalis 130
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Introduction of sulcus vocalis, etiologies of sulcus vocalis, pseudosulcus vocalis, sulcus vergeture, treatment of sulcus vocalis, mucosal bridge, uses of numerous techniques

23. Laryngeal Webs 133
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Symptomatic webs, endoscopic resection

24. Posterior Glottic Stenosis 136
Joseph R Spiegel, Robert T Sataloff, Farhad Chowdhury, Mary J Hawkshaw
Arises from posterior larynx, factors affecting postintubation complications, types of stenosis, EMG of the intrinsic laryngeal muscles, endolaryngeal procedures, open laryngeal procedures, surgical techniques

Prelims.indd xiii 9/8/2010 3:12:31 Gopal

25. Subglottic Stenosis 142
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Effects of stenosis, congenital subglottic stenosis, goals of correcting subglottic stenosis, surgical techniques

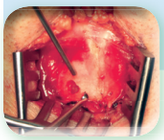
26. Bowed Vocal Folds and Presbyphonia 146
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Bowed vocal folds, superior laryngeal nerve paralysis, presbyphonia



Section 3 Premalignant and Malignant Lesions of the Larynx

27. Premalignant Lesions of the Larynx 149
Carole M Dean, Robert T Sataloff, Farhad Chowdhury, Mary J Hawkshaw
Terminology (clinical terms, histologic terms), epidemiology and etiological factors, malignant transformation, carcinoma *in situ* (CIS), laryngeal papillomas, human papilloma virus epidemiology and molecular biology, surgical techniques

28. Laryngeal Cancer 161
Timothy D Anderson, Robert T Sataloff, Farhad Chowdhury
Supraglottic tumors, treatment considerations, surgical procedures, glottic tumors, surgical treatment (excisional biopsy, endoscopic surgery, cordectomy, endoscopic laser-assisted vertical hemilaryngectomy, vertical hemilaryngectomy, reconstruction after partial laryngectomy, supracricoid hemilaryngectomy, total laryngectomy), subglottic cancer, surgical techniques



Section 4 Neurogenic Disorders

29. Vocal Fold Paresis/Paralysis 183
Adam D Rubin, Robert T Sataloff, Farhad Chowdhury
Effects of vocal fold paralysis, avoidance of Teflon injection, gelfoam injection, collagen, alloderm and fascia injection, autologous fat injection, removal of Teflon, surgical techniques

30. Thyroplasty 198
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Type I thyroplasty, revision thyroplasty, other types of thyroplasty, nomenclature, surgical techniques

31. Arytenoid Cartilage Adduction/Rotation, Cricothyroid Subluxation Arytenoidopexy and Arytenoidectomy 210
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Arytenoid cartilage adduction/rotation, arytenoidopexy and cricothyroid subluxation, cricothyroid joint, cricothyroid subluxation, Gore-Tex silastic block, nerve anastomosis, arytenoidectomy

Prelims.indd xiv 9/8/2010 3:12:31 Gopal

32. Nerve Muscle Pedicle Surgery 220
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Involvement of nerve muscle pedicle surgery, limitations of reinnervation, other techniques

33. Other Techniques for Bilateral Vocal Fold Paralysis 222
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Arytenoidopexy, alternative placement of suture/arytenoidectomy, vocal fold paralysis, posterior cordotomy, synkinesis

34. Throarytenoid Neurectomy 224
Robert T Sataloff
Procedural development of thyroarytenoid neurectomy for adductor spasmodic dysphonia, variations on thyroarytenoid neurectomy, anatomy of the thyroarytenoid branch, potential for abductor spasmodic dysphonia



Section 5 Laryngeal Trauma

35. Laryngotracheal Trauma 229
Yolanda D Heman-Ackah, Robert T Sataloff
Blunt injury, evaluation of the blunt trauma patient without airway distress, evaluation of the blunt trauma patient with airway distress, surgical evaluation, open exploration and repair, penetrating injuries, caustic and thermal injuries, iatrogenic injuries

36. Vocal Process Avulsion 246
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Occurrence of vocal process avulsion, result of vocal process avulsion, treatment of the vocal process avulsion, surgical techniques

37. Cricoarytenoid and Cricothyroid Joint Injury: Evaluation and Treatment 249
Robert T Sataloff, Farhad Chowdhury, Shruti Joglekar, Mary J Hawkshaw
Cricoarytenoid joint injury, embryology and anatomy, arytenoid dislocation/subluxation (diagnosis), adjunctive measures, cricothyroid joint injury

Index 259

Prelims.indd xv 9/8/2010 3:12:32 Gopal