

CONTENTS

Preface	xiii
Martin J. Citardi and Pete S. Batra	

Imaging for Functional Endoscopic Sinus Surgery	403
Nafi Aygun and S. James Zinreich	

Radiologic imaging is an essential part of the presurgical evaluation of patients with sinusitis and of the monitoring of difficult-to-treat, recurrent, and postsurgical disease. In patients with noninflammatory sinus pathology and those who "baffle" clinical diagnosis, imaging is extremely helpful in differentiating the various pathological entities and determining the extent of disease. Computerized tomography (CT), when deemed clinically necessary, is the current modality of choice to evaluate sinusitis. CT's ability to display bone, mucosa, and air makes it a perfect tool for imaging of the paranasal sinuses. The fine bony architecture of the nasal cavity and the paranasal sinus drainage pathways are depicted accurately with CT examination.

Revision Endoscopic Sinus Surgery	417
Noam A. Cohen and David W. Kennedy	

Patients with recurrent chronic sinusitis after prior surgical intervention pose a particular challenge to the otorhinolaryngologist. Establishing a correct diagnosis is the first step. Although primary chronic rhinosinusitis is typically a medical disease, postsurgical persistent disease may result directly from iatrogenic causes, requiring early surgical revision. Even in this setting, however, proper preoperative medical therapy is essential. When the decision to undergo revision surgery is made, the patient and the physician need to comprehend the rigorous and prolonged schedule of postoperative care and débridements that may be required for long-term success. Medical management and endoscopic surveillance postoperatively is continued until a stable cavity is achieved.

An Integrated Approach to Frontal Sinus Surgery

437

Frederick A. Kuhn

This article organizes the most useful procedures into a comprehensive integrated approach to frontal sinus surgery. It begins with the least invasive and progresses to the most invasive procedure in a step-by-step fashion, which can be applied as needed. The selection of procedure is governed by the patient's disease, anatomy, and the surgeon's skill. The least invasive procedure that can be used should be attempted first, and then, if more is needed, other procedures can be added, either at the same sitting or in subsequent revisions.

Perioperative Care for Advanced Rhinology Procedures

463

Richard R. Orlandi and Peter H. Hwang

Successful outcomes in rhinologic surgery require careful endoscopic interventions, not only in the operating room, but also in the perioperative setting. In particular, meticulous postoperative care is essential to successful outcomes. This article reviews aspects of wound healing and perioperative care that can optimize surgical patency and clinical outcome.

Reducing Complications in Rhinoplasty

475

Daniel G. Becker and Samuel S. Becker

The dedicated rhinoplasty surgeon continues to acquire throughout his or her career an increasingly detailed understanding of the anatomy and the problems that occur related to rhinoplasty and a growing armamentarium of techniques to achieve improvement or correction. This article outlines the authors' approach and discusses selected technical problems and approaches to reducing their occurrence. Focusing on the two essential goals—making the patient happy and making this the patient's only nasal surgery—primary rhinoplasty can be a uniquely rewarding experience for the patient and the surgeon.

Endonasal Laser Surgery: An Update

493

Howard L. Levine

Although surgical lasers were introduced more than 30 years ago, their use and popularity in nasal and sinus disease have been limited. Even so, there are many practitioners who find the laser a valuable surgical tool for nasal and sinus disease, either alone or in combination with other treatment modalities. Those who do not use lasers probably do not because of a lack of skill, knowledge, or understanding of the role and availability of the technology. This article reviews the history and current role of lasers in nasal and sinus surgery.

**Computer Aided Surgery: Concepts and Applications
in Rhinology** 503

P. Daniel Knott, Pete S. Batra, and Martin J. Citardi

Computer-aided surgery (CAS) has become relevant in a growing number of disciplines. This article will describe the history and principles of CAS and explain some of the technical issues, applications, and outcomes for CAS in the domain of rhinology.

**Endoscopic Management of Cerebrospinal Fluid
Rhinorrhea** 523

Rodney J. Schlosser and William E. Bolger

Cerebrospinal fluid rhinorrhea and meningoencephaloceles extending into the nasal cavity from the anterior, middle, and posterior cranial fossae often are managed by otolaryngologists. A thorough understanding of the underlying pathophysiology, management principles, and treatment options is essential to achieve optimal outcomes. Surgical and medical management is highly individualized and depends on many factors, including etiology, anatomic site, and underlying intracranial pressure. This article highlights the history, physiology, pathophysiology, diagnosis, surgical techniques, and postoperative care relevant to nasal cerebrospinal fluid leaks and encephaloceles.

Powered Endoscopic Dacryocystorhinostomy 539

P.J. Wormald

Over the past 10 years the interest in endoscopic dacryocystorhinostomy (DCR) has increased with improved instruments and endoscopic sinus surgery skills. Although endoscopic DCR was first described in 1989, the technique has evolved over the past 15 years as the understanding of the anatomy and ability to achieve reliable and consistent results has improved. Powered endoscopic DCR is a reliable and effective technique for managing primary nasolacrimal duct obstruction in adults and children and for revision DCR.

Endoscopic Orbital and Optic Nerve Decompression 551

Ralph Metson and Steven D. Pletcher

Endoscopic orbital decompression has become the surgical treatment of choice for many patients with orbital manifestations of Graves' disease, including proptosis and optic neuropathy. The unparalleled visualization provided by endoscopic instrumentation allows for a safe and thorough decompression, particularly when operating along the orbital apex and skull base. Although the benefits of and indications for decompression of the orbit are well established, the role of optic nerve decompression remains controversial.

Endoscopic Pituitary Surgery

563

Dharambir S. Sethi and Jern-Lin Leong

Endoscopic pituitary surgery has definite advantages over the traditional method using the operating microscope. Improved visualization, angled view, and a wider panoramic perspective of the important anatomic relationships of the sphenoid and the sella turcica were the obvious advantages. The direct endonasal transsphenoidal approach is the most minimally invasive. Its advantages include wider access, avoidance of a septoplasty, and the ability for two surgeons to work together enabling better instrumentation and more complete and rapid removal of the tumor.

Common Fibro-osseous Lesions of the Paranasal Sinuses

585

Robert Eller and Michael Sillers

Within the broad spectrum of disease that can affect the paranasal sinuses is a class of benign bony abnormalities known collectively as fibro-osseous lesions. Fibrous dysplasia, ossifying fibroma, and osteoma are three distinct entities that lie along a continuum from the least to the most bony content. They have similar appearance and makeup; however, their clinical implications vary. This article focuses primarily on sinonasal osteomas, with less emphasis on fibrous dysplasia and ossifying fibroma.

Benign Sinonasal Neoplasms: A Focus on Inverting Papilloma

601

Christopher T. Melroy and Brent A. Senior

Benign sinonasal neoplasms are a pathologic and clinically varied group of tumors. Inverting papilloma is a notable member of this group, and it is renowned for its high rate of recurrence, its ability to cause local destruction, and its association with malignancy. This article will familiarize the clinician with all the practical aspects of inverting papilloma and its management. The treatment algorithm for this tumor has undergone a complex evolution that continues today.

Endoscopic Management of Sinonasal Malignancy

619

Pete S. Batra and Martin J. Citardi

The advent of rigid telescopes has revolutionized the management of rhinologic disease. These instruments have been used as a diagnostic and therapeutic tool for paranasal sinus inflammatory disease since the 1970s. Endoscopic techniques have been used for treating increasingly complex intranasal pathology, including nasolacrimal duct obstruction, cerebrospinal fluid leaks/encephaloceles, dysthyroid orbitopathy, and optic neuropathy. Recently endoscopic techniques have also been used successfully to manage selected tumors, including inverted papilloma, angiofibromas, and hypophyseal tumors. This article reviews patient evaluation

strategies, surgical techniques, and outcomes data for the minimally invasive endoscopic resection.

Transnasal Endoscopic Surgical Approaches to the Clivus

639

Aldo Cassol Stamm, Shirley S.N. Pignatari,
and Eduardo Vellutini

Transnasal endoscopic-assisted techniques to the clivus region can be safe and effective. Endoscopic-assisted approaches provide improved visualization and are a superior alternative to open surgical approaches in most cases. Nevertheless, problems such as infection, CSF leakage, and difficulty controlling intradural bleeding still remain. Surgeons must always remember that, although high technology such as endoscopes, image-guided surgery systems, imaging studies, and advanced anesthetic drugs were essential for the development and improvement of the skull base surgery, the success of this type of surgery depends on perfect knowledge of the anatomy, intense endoscopic surgery training, and a multidisciplinary partnership.

Index

657