Endoscopic Surgery of the Orbit and Lacrimal System
Minimally Invasive Options Allow Patients to Avoid Facial Scarring

Raj Sindwani, MD

Over the past decade, improved facility with endoscopes, empowered by technological advances, has extended our ability to endoscopically manage disorders affecting structures beyond the paranasal sinuses. The pursuit of minimally invasive but equally efficacious surgery has fueled the development of innovative endoscopic approaches to the orbit and lacrimal apparatus. With concurrent improvement in office examination techniques and operative instrumentation such as surgical navigation technology, clinicians are now able to achieve increased precision in diagnosis and offer patients more refined and minimally invasive options for treatment.

The advantages of endoscopic orbital techniques are that they avoid facial scars and are less morbid, while still offering success rates equivalent to traditional surgical approaches. Employing an endoscope also allows procedures on the orbit to be performed under better illumination and magnification, which improves visualization. This is especially important in avoiding injury to adjacent vital structures during surgery on the orbital apex, such as in orbital and optic nerve decompression. Having a rhinologist involved during surgery on the orbit also ensures that intranasal causes of failure for procedures – for example, during dacryocystorhinostomy (DCR) – are corrected or avoided at the outset and that healthy sinonasal function is preserved.

The Rhinology Section of the Cleveland Clinic Head & Neck Institute offers a comprehensive approach to the diagnosis and surgical

Patient Experience:
Successful Surgery with No Scarring

A 34-year-old healthy woman from New York who worked in the fashion industry was diagnosed with bilateral nasolacrimal duct obstruction. In recommending traditional DCR surgery, her local ophthalmologist told her that the procedure had an excellent success rate but that the blockage of her tear ducts would need to be bypassed through a facial incision on each side.

Concerned about the prospect of two permanent facial scars, she traveled to Cleveland Clinic for a second opinion. Our multidisciplinary team confirmed the diagnosis of primary bilateral nasolacrimal duct obstruction. She chose Cleveland Clinic for her surgery and underwent bilateral endoscopic DCR procedures, which were performed without any cuts or bruises to her nose or face. Her stents were removed six weeks after surgery, and she continues to do well with complete resolution of her symptoms.

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From the Chairman

DEAR COLLEAGUES:

Welcome to our annual newsletter, which updates you on the innovative programs, recent advances and new members of the Cleveland Clinic Head & Neck Institute. The past year has seen continued growth of our institute with a number of new staff in all five of our specialties, the development of new programs, and the expansion of our long-standing multidisciplinary efforts. It remains our goal and passion to be innovative, compassionate and at the leading edge of care in disorders of the head and neck. As the name recognizes, Advances in Otolaryngology & Dentistry allows us to highlight some of our outstanding programs. The articles in this issue cover only a few of the many exceptional clinical and research efforts from our disciplines of otolaryngology, dentistry, speech language sciences and disorders, audiology and oral surgery.

We are becoming an international center for minimally invasive endoscopic orbital surgery in our collaboration with the Cole Eye Institute, and we have seen significant expansion of our office-based minimally invasive laser laryngeal program. The notable success of the use of orthodromic temporalis tendon transfer for reanimation of facial paralysis has resulted in remarkable improvement in facial movement and quality of life for this complex population. Dentistry and oral surgery have seen great advances, including total replacement of the temporomandibular joint, which is performed at only a few centers.

We are in the final stages of renovating the entire seventh floor and a portion of the fifth floor of the Crile Building on our main campus to accommodate the new and significantly expanded Head & Neck Institute. We are finishing our last clinical space and are beginning construction of a world-class recording studio, which will serve our ability to perform distance-based voice evaluations and expand our electronic consultation service. We have created a state-of-the-art conference center on the floor. And we have integrated a global digital video, audio and still-image capture and archiving system that allows us to share images throughout all of our sites, our operating rooms and our conference center.

We are proud of our progress. We are growing as Cleveland Clinic grows and are exploring international expansion of our services.

I hope you enjoy this issue of Advances in Otolaryngology & Dentistry.

Michael S. Benninger, MD
Chairman
Cleveland Clinic Head & Neck Institute
ENT/SLP Clinics: Models of Collaboration

Cleveland Clinic nurtures and encourages clinical collaboration and integration. A paradigm for this approach is demonstrated by Douglas Hicks, PhD, SLP, CCC, and Tom Abelson, MD, who work together extensively in the care of voice patients presenting to the Cleveland Clinic Voice Center through the Beachwood Voice Clinic and the Laryngeal BOTOX® Clinic.

A number of years ago, Dr. Hicks, a speech pathologist, and Dr. Abelson, an ENT, decided to hold a special clinic together in Cleveland Clinic’s suburban Beachwood Family Health and Surgery Center. While professional singers and other performers are the focus of this clinic, any patients with voice problems who can benefit from dual expertise are scheduled in this once-a-month clinic. The entire patient visit, including the history taking, the physical exam, the videostroboscopy and the discussion, planning and counseling session, is attended by both experts. This model of care delivery capitalizes on the expertise of two disciplines. It is truly a joint model of care, and its success is based on mutual respect between the SLP and the ENT. After the exam the patient hears and participates in an unedited dialogue between the experts who are working for and on behalf of the vocalist. Each of the participants helps to clarify and flesh out aspects of the diagnosis and treatment plans during the interaction. Patient buy-in and compliance with care recommendations are enhanced by his/her observation of the formation of the diagnosis and plan. Patients are drawn into active participation in their own care.

At times the clinic draws on other experts as well, including neurology, geriatrics, allergy, gastroenterology, pulmonary, voice coaches and a rehabilitation voice teacher. The areas of expertise are complementary, comprehensive and individualized to deal with voice problems caused by medical, surgical or behavioral issues, or a combination of all three.

Collaboration is especially helpful given that Cleveland Clinic often attracts complicated cases. Our clientele is diverse in all respects, including age, training background, expertise and experience. For example, in our most recent clinic, we had a longtime voice-trained community theater performer with chronic vocal fold lesions but a wonderful attitude and motivation to strategize on ways to improve her effectiveness until she was ready for surgery. We had three recent high school graduates with whom we had worked during the last year who were all entering musical theater programs with restored vocal health and great confidence gained through their care in the Voice Clinic. We had a patient with a complicated and very severe dysphonia caused by spasmodic dysphonia as well as a complicated dystonia, exacerbated by severe muscle tension dysphonia.

The special partnership is a natural outgrowth of Drs. Hicks and Abelson’s long-standing collaboration in presentation workshops at conservatories and other venues and in co-treating singers and participating in research activities. They also hold a monthly BOTOX Clinic for patients with spasmodic dysphonia and other dysphonias who can benefit from laryngeal BOTOX.

Note: Other members of the Cleveland Clinic Voice Center include Michael Benninger, MD, Chairman of the Head & Neck Institute; Claudio Milstein, PhD; and Paul Bryson, MD, who joined the team this summer.
The development of minimally invasive, office-based procedures has become more common throughout medicine as technology has advanced, as hospitals and clinicians have become more cost-conscious, and as patients have embraced procedures that offer minimal discomfort, avoidance of general anesthesia (if possible), brief, if any, hospital admission, and a minimal overall disruption of everyday responsibilities. In light of these driving forces, otolaryngology and the subspecialty of laryngology, in particular, have enjoyed a renaissance in office-based procedures.

With the continued growth and development of the Laryngology Section and Voice Center, Cleveland Clinic is well resourced to provide and expand these cutting-edge procedures.

Prior to the development and widespread use of general anesthesia, operating microscopes and surgical lasers, laryngology was primarily an office-based specialty that relied on local anesthesia for diagnosis and treatment of pathology. Subsequently, laryngology migrated to the operating room, where the surgeon enjoyed (and continues to enjoy) high-power magnification and a motionless operative field. Previously, the office-based imaging capabilities and absence of fiber-based laser technology limited surgical precision in the office setting.

While it remains true that there are many patient situations that mandate an operative setting, the recent technological advances in endoscopic imaging and fiber-based laser systems have catalyzed laryngologists to reconsider and dramatically expand the range of office-based diagnostic and therapeutic procedures for their patients. Indeed, distal chip flexible laryngoscopes with operating ports, fiber-based angiolytic lasers, a broader selection of vocal fold injection materials and transnasal esophagoscopes now allow the otolaryngologist to provide precise, high-level care to patients with voice, swallowing and airway problems.

The success of office-based procedures depends upon patient comfort. Clear communication between the surgeon and patient before each step of the procedure is crucial to obtain adequate local anesthesia, to provide reassurance and to diminish anxiety. The ideal candidate has a patent nasal airway, minimal gag reflex with flexible/rigid laryngoscopy, and is able to remain still, upright and poised in the exam chair throughout the procedure. Patients with excessive anxiety or mental illness may not be good candidates for office-based procedures. Anticoagulation is a relative contraindication; however, clinical experience has shown complications to be rare in these patients, even if unable to be taken off anticoagulation medications. The patient is not sedated for these procedures, and hemodynamic monitoring is not typically employed unless dictated by significant cardiopulmonary comorbidity. Ultimately, these patients may benefit from monitoring in an operative setting. The application of local anesthesia varies slightly between procedures but typically involves nasal decongestion and anesthetization, topical anesthesia to the oropharynx, as well as direct application of 2 to 4 percent lidocaine to false and true vocal folds.
The most commonly performed procedures in the office setting, aside from botulinum toxin injection for spasmodic dysphonia, include:

- Vocal fold injection medialization for vocal fold paralysis/paresis/glottic insufficiency
- Transnasal esophagoscopy (TNE)
- Office-based KTP photoangiolytic laser procedures

Vocal fold injection has become more common in the office-based setting as injectable materials have become better tolerated and easier to inject. Except for autologous fat, most materials that are used in the operating room can be used in the office setting to treat glottic insufficiency caused by vocal fold paralysis/paresis, presbylaryngis or postsurgical defect. Awake, office-based injection often offers the patient immediate benefit and the voice team the opportunity to evaluate the patient before, during and after the intervention. This procedure also can be performed at the bedside in appropriately selected patients, such as those with paralysis following skull base and cardiothoracic surgery where glottic insufficiency is a significant morbidity.

Unsedated, office-based transnasal esophagoscopy (TNE) also is becoming more common as imaging technology has improved and flexible esophagoscopes have become thin enough to be passed through the nose. TNE may be employed to evaluate numerous clinical scenarios, including odynophagia, suspected foreign body, medically refractory laryngopharyngeal reflux and chronic cough, and as part of initial panendoscopy for head and neck cancer. Additionally, TNE may be employed for interventions such as biopsies, balloon dilatation for stricture, and secondary tracheo-esophageal puncture for alaryngeal speech rehabilitation. Current data have found overall costs of unsedated TNE to be less than those of traditional esophagoscopy, and patient satisfaction to be high.

The most exciting innovation to be adapted to office-based laryngeal surgery has been the development of fiber-based lasers. A number of epithelial-based lesions now can be treated in the office setting. Recurrent respiratory papillomatosis, keratosis, dysplasia and other vascular lesions all lend themselves to office-based management in appropriately selected patients. Given the vascular nature of these lesions, photoangiolytic lasers that target oxyhemoglobin are the lasers of choice. At Cleveland Clinic, we use both pulsed KTP and pulsed-dye photoangiolytic lasers for these procedures in the office as well as in the operating room. It is important for patients to understand that it is common to undergo initial treatment in the traditional operative setting and then transition to the office setting once a patient’s disease burden has been reduced and recurrence pattern becomes better understood. This is especially true for recurrent papilloma where the goal is to reduce the amount of general anesthesia to which the patient is subjected.

It is an exciting time for the Laryngology Section and Voice Center. The benefits of office-based procedures for patients are substantial, and the spectrum of treatment options will continue to expand. Cleveland Clinic is pleased to offer office-based laryngeal surgery to appropriately selected patients.
Patient Satisfaction with the Baha® is Higher When Treatment is Combined with Counseling

Craig W. Newman, PhD, and Sharon A. Sandridge, PhD

Single-sided deafness (SSD) is known to decrease communication ability and reduce psychosocial function in a variety of everyday listening situations. Specifically, the loss of binaural hearing impairs speech understanding in background noise and/or reverberation, reduces localization and spatial balance, decreases binaural summation and integration benefit, and results in poor understanding when the talker is on the deaf side. To overcome these difficulties, the Baha auditory osseointegrated implant system provides transcranial bone conduction stimulation via implantation of a titanium fixture and external sound processor for patients with SSD.

Studies with adult patients conducted in the Audiology Research Laboratory in the Head & Neck Institute found that the Baha is effective in reducing the social and emotional consequences of SSD over the long term. Further, the Baha is especially beneficial in improving communication function when speech and noise sources are spatially separated – that is, when speech is directed toward the deaf ear and background noise is directed to the normal hearing ear.

In order to evaluate the relationship between expectations and satisfaction for Baha users, we administered the Expected Consequences of Hearing Aid Ownership (ECHO) questionnaire prior to surgery, and its companion form, the Satisfaction with Amplification in Daily Life (SADL), at several intervals up to 18 months post-fitting. In addition to the initial consultation with the physician, all patients underwent a 1.5-hour counseling session with the audiologist and a trial with the headband bone-conduction simulator. Overall, we found that patients were more satisfied with their outcomes than expected based on their pre-fitting report of expectations. Moreover, satisfaction ratings for the Baha remained stable across the 18-month time interval evaluated.

We suggest that the magnitude of the relationship between expectations and satisfaction for the Baha depends, in large part, upon the extent of initial and ongoing counseling provided by the physician and audiologist. Our findings suggest that patients are truly satisfied with the Baha treatment for SSD, given appropriate counseling and the establishment of realistic expectations, especially during the initial phase of the management process.

Dr. Newman is Co-Director of the Audiology Research Laboratory and Section Head of Audiology. Dr. Sandridge is Co-Director of the Audiology Research Laboratory and Director of Clinical Audiology Services.
management of simple as well as complex orbital and lacrimal disorders using a dual-specialty, two-surgeon team approach. Our experienced rhinologists work in tandem with oculoplastic surgeons to provide unparalleled expertise with superior outcomes.

There has been a robust proliferation of endoscopic orbital techniques in recent years. In addition to well-established procedures such as endoscopic orbital and optic nerve decompression, endoscopic DCR, endoscopic fracture repair and endoscopic subperiosteal abscess drainage, innovative techniques include endoscopic anterior ethmoid artery ligation, endoscopic ocular muscle surgery, endoscopic transorbital surgery and even endoscopic orbital exenteration. Due to the advantages afforded by the endoscopic approach to the orbit and lacrimal system, this trend is expected to continue, and Cleveland Clinic’s Rhinology Section will continue to be at its forefront.

**Endoscopic DCR Surgery:** Intranasal approaches to the correction of lacrimal outflow obstruction were initially described more than 100 years ago but have gained renewed popularity with the recent development of the field of endoscopic sinus surgery. Endoscopic dacryocystorhinostomy (EDCR) may be considered in many patients with lacrimal outflow obstruction and is particularly advantageous in patients with concomitant sinonasal disease, patients with a history of radiation therapy, pediatric patients, and in revision procedures. Advantages of the endoscopic technique include excellent visualization, the ability to thoroughly evaluate the location and size of the rhinostomy site, and the avoidance of a facial scar. Recent studies suggest that the success rates of EDCR are equivalent to those achieved through traditional external approaches.

**Endoscopic Orbital and Optic Nerve Decompression:** Surgical decompression of the orbit has been used to treat the severe proptosis and optic neuropathy associated with Graves’ disease. While decompression techniques involving removal of the four walls of the orbit had been used, the transantral Walsh-Ogura decompression described in the 1950s was favored by most otolaryngologists for many years. Endoscopic orbital decompression was first described by Kennedy and others in the early 1990s. Enhanced visualization of key anatomic landmarks allowed for safe and thorough decompression of the entire medial orbital wall, as well as the medial portion of the orbital floor. Excellent results with fewer complications have made the endoscopic approach the technique of choice for orbital and optic nerve decompression.

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Craig W. Newman, PhD

Endoscopic Surgery of the Orbit and Lacrimal System Continued from cover

**Endoscopic Anatomy:**
Endoscopic view of right lateral nasal wall structures showing underlying location of nasolacrimal apparatus which is accessed transnasally during an endoscopic DCR procedure. The maxillary line (asterisk) and superior attachment of the middle turbinate (MT) serve as the key intranasal landmarks for this procedure. (L-lacrimal sac, U-uncinate process, and S-septum).

**Rhinostomy Creation:** After the mucosa overlying the location of the lacrimal sac is removed, powered instrumentation such as a drill or microdebrider is used to remove the bone of the lacrimal fossa to expose the medial wall of the sac.

**Entering the Sac:** A sickle-knife is then used to excise the medial sac wall, exposing the interior of the sac and creating a controlled fistula.

**Stenting:** A silastic stent may be placed through the lacrimal apparatus externally and retrieved intranasally. Stents are usually left in place for a few weeks while the rhinostomy site heals.
Research Efforts Seek to Improve Tinnitus Treatment and Enhance Facial Nerve Recovery

James Kaltenbach, PhD

Our research program’s two major areas of focus are tinnitus and facial nerve regeneration.

Tinnitus

Tinnitus is extremely annoying to sufferers and can lead to severe depression, anxiety and even suicide. Unfortunately, most of the existing treatments attack the psychological side of the problem because we do not have a complete understanding of the underlying mechanisms of tinnitus and, therefore, the treatment to reduce the annoying sounds.

Our laboratory has developed an animal model of tinnitus to probe these mechanisms with the goal of improving treatment. We have found that agents that induce tinnitus (noise or ototoxic drugs) cause the auditory brainstem to become hyperactive, a condition that normally occurs only when neurons respond to sound. This hyperactive state develops very low down in the auditory system, occurring as early as the dorsal cochlear nucleus (DCN). We have found that when input to the DCN from the auditory nerve is reduced by excessive exposure to loud noise, neurons gradually develop hyperactivity over a period of several days, suggesting that the change reflects plasticity of the circuit. Additional studies from this and other labs have shown that this plasticity involves a weakening of inhibition and an increase in excitation to DCN neurons.

One strategy for improving tinnitus treatment is to develop approaches that will strengthen the inhibitory input to the hyperactive cells. A major source of inhibition to the hyperactive cells can be turned on by stimulating a bundle of nerve fibers called parallel fibers that run just below the DCN surface. We have been experimenting with various methods to activate these fibers in the hopes that we can achieve a suppression of tinnitus-related hyperactivity. Our results so far appear promising in that we have been able to demonstrate activation of the parallel fibers both by applying cholinergic agonists to the DCN surface and by delivering low levels of electric current to the DCN surface using microelectrodes. Our present experiments will determine whether the activation of the parallel fibers also results in the suppression of tinnitus-related hyperactivity.

Facial Nerve Recovery

Our laboratory, in collaboration with Daniel Alam, MD, also has focused on clinical modulators to improve facial nerve recovery after injury. Despite meticulous surgical techniques to repair a severed nerve, coaptations have been viewed as producing unpredictable and frequently suboptimal outcomes. After the facial nerve is severed, a complex biological repair process of regeneration occurs within the neuron cell body and axon with several phases of recovery. One of the important driving factors of this process appears to be neuroinflammation and neuroinflammatory factors. Ultimately, this complex process produces a variable and usually limited return of nerve function.
Efforts to improve facial nerve function have largely centered on the use of neurotrophic factors, such as brain-derived neurotrophic factor (BDNF) and nerve growth factor (NGF). Glucocorticoids have been used to reduce perineural inflammation for many disease processes, particularly in the central nervous system. To date, however, few studies have accurately described the functional effects of glucocorticoid administration after facial nerve axotomy (severing) and coaptation. Unlike crush injuries, which have been studied extensively, nerve transaction repair is a clinical condition that head and neck surgeons encounter much more frequently.

Our present studies aim to examine both local and systemic glucocorticoid administration on facial nerve regeneration and functional return after complete axotomy and immediate microsurgical repair in a rat model. Preliminary data have shown clinically significant improvement in the timing of recovery onset and in the final functional endpoint with the use of high-dose steroid treatment at the time of neural coaptation. We hope that further research will better elucidate the neurochemical basis of this observed effect.

Referring Patients Who Have Difficulties with Swallowing and Speech

Michael L. Huband, DDS

If the tongue has lost tissue volume or mobility due to congenital or acquired defects, traumatic brain injury, or scarring and fibrosis, a palatal augmentation prostheses may prove beneficial in improving or restoring function. During the oral phase of swallowing, the tongue comes in contact with the hard palate and is braced against the roof of the mouth during movement. This allows the tongue to act as plunger, forcing the bolus of food posteriorly. When the tongue can no longer adequately move to contact the hard palate, a palatal augmentation prosthesis can be used to create an artificial palate that is positioned to bring the level of the palate down to contact the tongue during function.

Similarly, during speech the tongue contacts the anterior portion of the palate or the teeth during “T” and “TH” sounds, and contacts the posterior area of the palate when forming “K” and “G” sounds.

To construct a palatal augmentation prosthesis, a functional impression is generated while the patient repeats a series of words. From this impression, the desired shape of the prosthesis is generated and produced in acrylic resin. For dentate patients, the prosthesis is retained by placing clasps on the teeth in a manner similar to an orthodontic retainer. If the patient is edentulous, it may be added to an existing denture. (See photos at right.)

A quick screening to determine whether your patient would benefit from a consultation includes the following questions:

- Is the tongue tethered or does it deviate during protrusion?
- Is the problem with moving a bolus during the oral phase of swallowing?
- Is the patient unable to produce a crisp and clear sound during the production of “T,” “TH,” “K” and “G” sounds?

An easy test is to have the patient repeat aloud, “Go get Gary because Kit Kat is tip top.” If the answer to any of these questions is “Yes,” then referral to a maxillofacial prosthodontist is appropriate.

A palatal augmentation added to existing denture

Impression for adding palatal augmentation
Obstructive sleep apnea (OSA) is a devastating and debilitating disease that occurs in over 10 percent of the U.S. population, with male predilection. OSA occurs only during sleep and is a result of physiologic loss of pharyngeal muscle tone. The effects are complete cessation of breathing (apnea) or decreased breathing phase (hypopnea). If sustained long enough, OSA will lead to central arousal via carbon dioxide retention, which disturbs the physiologic sleep by releasing catecholamines. This increases the sympathetic drive, and over a long period of time can cause pulmonary vasoconstriction, systemic vasoconstriction, vagal bradycardia (ectopic cardiac beats), polycythemia and cerebral dysfunction.

Apnea and hypopnea also prove to have severe clinical effects such as snoring, impotence in men, restless sleep, excessive daytime sleepiness, intellectual deterioration, behavioral disorder, systemic hypertension, pulmonary hypertension, myocardial infarction, cerebral vascular accident and unexplained nocturnal death. In addition, the economic impact of OSA is estimated in billions of dollars.

Today maxillomandibular advancement (MMA) can be seen as the most successful surgical procedure outside of tracheotomy. There is no doubt that maxillomandibular advancement is an aggressive surgical option and should be reserved for those who have severe OSA and have exhausted all other medical and soft-tissue surgical options. Nevertheless, there is tremendous support in the literature for skeletal surgery for obstructive sleep apnea, with a success rate ranging from 87-98 percent. The rationale for MMA is the simultaneous expansion of the nasopharynx, oropharynx and hypopharynx.

Maxillomandibular advancement is performed by standard Le Fort 1 osteotomy with combination of mandibular sagittal split osteotomy for advancement of maxilla and mandible about 10mm. A concomitant inferior mandibular osteotomy with hyoid or without hyoid myotomy and suspension also can be performed in selected cases. The surgery may result in significant facial profile changes that most often are considered favorable by the patients.

At Cleveland Clinic, with the formation of the Head & Neck Institute, we are taking advantage of our multidisciplinary approach to treatment of OSA by integrating respective specialties needed for comprehensive care of severe and complex patients.

Dr. Krajekian is on staff with the division of oral and maxillofacial surgery in the Head & Neck Institute. He has a special interest in surgical management of obstructive sleep apnea.
Four years ago, Alan Kominsky, MD, FACS, came across a study in *Otolaryngology Head and Neck Surgery* describing a modification to the traditional uvulopalatopharyngoplasty (UPPP) procedure performed on patients with severe sleep apnea.

“Traditional UPPP is when the back of the palate is excised and removed and sewn closed to try to gain more space,” Dr. Kominsky says. The modified version involves rearranging the tissue, rather than cutting it away.

Dr. Kominsky began performing the tissue-sparing modification. He’s found it to be as effective as the traditional surgery, with less postoperative impact on his patients’ quality of life. “Traditional UPPP leaves a scar band across the back of the throat, which can lead to an annoying sense of postnasal drip, random coughing and swallowing issues,” he explains. The modified surgery presents no such issues. “It’s very clear that patients are better afterward, with fewer side effects,” he says.

Surgery is an option for sleep apnea sufferers who can’t tolerate the CPAP machine. Dr. Kominsky offers the example of one of his patients who was barely in his 30s when he underwent the surgery. “He said it changed his life when he had it done,” Dr. Kominsky reports. “He no longer is tied to a CPAP machine that he had problems using.” Before the surgery, the patient had daily fatigue from not sleeping well at night. When he did sleep, he snored loudly, which bothered his wife. “Now, he has normal airway passages,” Dr. Kominsky says. “He has no more fatigue during the day. He gets up in the morning and can work all day.”

Untreated sleep apnea increases the risk of high blood pressure, heart attack, stroke, obesity and diabetes, among other problems. Dr. Kominsky says surgical management of sleep is considered when the degree of severity is moderate to severe. “Weight plays a role as well,” he says. “The lower the weight, the higher the chance that the surgery will succeed.”

Certified in ENT and Sleep Medicine, Dr. Kominsky is one of about 130 ENT physicians with sleep certification in the country. He is on staff at the Cleveland Clinic Head & Neck Institute and has a joint appointment in the Sleep Disorders Center.
Balance Disorders on the Rise

Judith White, MD, PhD

Recent data from the National Health and Nutrition Examination Survey — a cross sectional, large-scale Centers for Disease Control and Prevention survey of U.S. adults ages 40 and older — found that a striking 35.4 percent of U.S. adults (69 million) have vestibular dysfunction. Older Americans have a greater probability of vestibular dysfunction, and the risk is 70 percent higher in diabetics. Individuals reporting dizziness have 12 times the risk of falling compared to those who did not complain of dizziness. These data are the first available prevalence estimates of vestibular dysfunction and associated fall risk in America and are based on balance testing administered to thousands of individuals from 2001 to 2004.

Fall risk assessment and prevention is a growing priority for our national healthcare system and health quality indicators. This is not surprising, as falls are among the leading causes of death in adults, having increased significantly in the last 25 years (adjusted for age), and contribute to escalating costs for direct treatment as well as debility as a consequence of fall-related injury. One of the best measures of fall risk is simply asking if a patient has fallen in the past year. Fall risk assessment is being added to the Cleveland Clinic computerized medical record during primary care provider visits.

The number of multidisciplinary balance programs addressing the need to evaluate and treat vestibular disorders and fall risk is growing. Otolaryngology, neurology, audiology and physical therapy participate cooperatively in these programs, and a regional Balance Center is planned for Cleveland Clinic. State-of-the-art diagnostic vestibular laboratory testing already is available at Cleveland Clinic’s main campus and Beachwood and Strongsville family health centers. This testing can quickly (within 15 minutes) and efficiently determine if common vestibular disorders, such as benign paroxysmal positional vertigo, are contributing to patients’ balance problems, as well as provide more complete assessment and direction in challenging and complex cases. Results are sent to the requesting provider via the electronic medical record or by fax, and testing in most cases is available the same or next day.

Judith White, MD, PhD, says that state-of-the-art diagnostic vestibular laboratory testing can quickly and efficiently determine whether common vestibular disorders are contributing to patients’ balance problems.

Vestibular physical therapy services are also growing at Cleveland Clinic. More than a dozen new vestibular therapists were recently certified to join our capable group of established, highly experienced and specialized therapists equipped with infrared eye movement diagnostic systems. Vestibular therapy services are now available in the region as well. Referral diagnoses commonly include benign paroxysmal positional vertigo, vestibular weakness, and multifactorial balance and gait disorders.

Our Head & Neck Institute staff members offer skilled evaluation and treatment of vestibular disorders, ranging from benign paroxysmal positional vertigo to Ménière’s syndrome, vestibular neuritis, semicircular canal dehiscence, bilateral vestibular hypofunction and acoustic neuroma.
World Voice Day 2010

The Head & Neck Institute staff celebrated World Voice Day over several days this year, beginning with health screenings on April 15 and culminating in a “Let’s Talk about Voice Health” presentation on April 20.

The purpose was to educate the community about voice health and to raise awareness of the services at Cleveland Clinic’s Voice Center.

Participants were able to access a live online chat with a voice specialist, and the transcript was later published on Cleveland Clinic’s website.

Events included free noninvasive screenings, a concert by the Oberlin School of Music, and a night Indians baseball game at which participants could learn about voice care through questionnaire screenings and fun trivia facts.

The key messages of the health talk included caring for your voice with proper hygiene and hydration and knowing when hoarseness is a signal to see a specialist.

Head & Neck Institute/Voice Center staff members who took part in the events included Tom Abelson, MD; Michael Benninger, MD; Richard Freeman, MD, PhD; Douglas Hicks, PhD; and Claudio Milstein, PhD.

In April, baseball fans had a chance to learn about voice care at the Cleveland Indians’ stadium.
New Staff

Paul Bryson, MD, a laryngologist, most recently was a clinical fellow for laryngeal surgery and voice rehabilitation at Massachusetts General Hospital. He completed a head and neck surgery residency at the University of North Carolina Hospital. He has a special interest in all voice and swallowing disorders, including of professional and performing voice users, and is pleased to offer office-based procedures for appropriately selected patients.

Edward Cho, MD, joins Cleveland Clinic as a clinical associate in the Department of Otolaryngology. He completed his medical education at Yale University School of Medicine and his residency at Cleveland Clinic.

Dr. Cho placed first in his research presentation at the Northeastern Ohio Otolaryngology Head & Neck Surgical Society meeting in 2009. He is training in vestibular and balance disorders with Judith White, MD, PhD, and under her direction will be seeing patients with those disorders. Additionally, he will be seeing patients for general otolaryngology care.

Mumtaz Khan, MD, a head and neck oncologic surgeon, recently served as associate dean for postgraduate medical education, associate professor and head of the division of Otolaryngology Head & Neck Surgery at Aga Khan University in Karachi, Pakistan. He is the former director of head and neck oncologic surgery at Henry Ford Health System in Detroit.

Prashant Solanki Malhotra, MD, a pediatric otolaryngologist, was a fellow and clinical instructor in pediatric otolaryngology at Lucile Packard Children’s Hospital in Stanford, Calif. He trained in head and neck surgery at Thomas Jefferson University Hospital in Philadelphia, and Alfred I. duPont Hospital for Children in Wilmington, Del., and received his medical degree from Case Western Reserve University in Cleveland.

Dr. Malhotra is interested in pediatric vascular anomalies, head and neck masses, pediatric ear diseases and hearing loss, and pediatric airway disorders. He has conducted medical outreach in India and Peru.

Raj Sindwani, MD, FACS, FRCS, a rhinologist who specializes in endoscopic sinus, orbital and skull base surgery, heads the Section of Rhinology, Sinus and Skull Base Surgery. Formerly the Chief of the Division of Rhinology at Saint Louis University in St. Louis, Mo., Dr. Sindwani completed medical school and his otolaryngology residency at the University of Western Ontario in Canada, and then a fellowship in rhinology at the Massachusetts Eye and Ear Infirmary-Harvard Medical School.

Dr. Sindwani is Editor-in-Chief of the Yearbook of Otolaryngology and a member of the Editorial Board of the Yearbook of Otolaryngology and the ENT Journal.

Staff Awards and Achievements

Brian Burkey, MD, received a Distinguished Service Award from the American Academy of Otolaryngology-Head and Neck Surgery, and he was elected President for 2010-11 of the Society of University Otolaryngologists.

Raj Sindwani, MD, received a 2010 Honor Award from the American Academy of Otolaryngology and was named Associate Editor for the American Journal of Rhinology and Allergy.

Judith White, MD, PhD, was awarded a certificate and letter for outstanding professional achievement from the Ohio Senate President.

Sarah Sydlowski, AuD, PhD, has been appointed audiology director of the Hearing Implant Program. She completed her clinical doctorate in audiology at the University of Louisville in Kentucky and her PhD in audiology at Gallaudet University in Washington, D.C. Her dissertation focused on the auditory and vestibular impact of superficial siderosis of the central nervous system. She previously coordinated the cochlear implant program for the Department of Audiology at the Mayo Clinic in Scottsdale, Ariz.

Dr. Sydlowski is a fellow of the American Academy of Audiology and holds her Certificate of Clinical Competence in Audiology from the American Speech-Language-Hearing Association. Her clinical and research interests include auditory implants, electrophysiology, and auditory and vestibular pathology.

Jill Weber, DDS, an oral and maxillofacial surgeon, completed her surgical residency at Carle Foundation Hospital in Champaign, Ill. She completed an advanced dental residency at Audie Murphy Veterans Hospital in San Antonio. Dr. Weber obtained her dental degree from Case Western Reserve University in Cleveland. Dr. Weber has interests in maxillofacial pathology, trauma and reconstruction. She also performs corrective jaw (orthognathic) surgery, dental implant surgery and tooth extractions.

Erika Woodson, MD, an otologist/neurotologist/skull base surgeon, earned her medical degree from Virginia Commonwealth University School of Medicine in Richmond, Va. She completed her residency and a fellowship in neurotology and skull-base surgery at the University of Iowa Hospitals and Clinics. She joins the Otology-Neurotology section, and is the medical director of the Hearing Implant Program. Dr. Woodson’s research interests include hybrid cochlear implantation and acoustic neuroma surgery.
PHYSICIAN DIRECTORY
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To arrange a transfer for STEMI (ST elevated myocardial infarction), acute stroke, ICH (intracerebral hemorrhage), SAH (subarachnoid hemorrhage) or aortic syndromes, call 877.379.CODE (2633).

For all other critical care transfers, call 216.444.8302 or 800.553.5056.

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>> GLOBAL PATIENT SERVICES  Complimentary assistance for national and international patients and families. Call 001.216.444.8184 or visit clevelandclinic.org/gps.
U.S. News Ranks Cleveland Clinic One of America’s Top Hospitals

Head & Neck Institute Ranked One of the Top Programs in the Nation

Cleveland Clinic has been ranked among America's top hospitals since U.S. News & World Report began its annual survey of “America's Best Hospitals” in 1990. The 2010 survey recognized Cleveland Clinic as one of the nation's best hospitals overall, ranking the hospital as No. 4 in the country. The magazine’s “America’s Best Hospitals” survey ranks our ear, nose and throat program No. 8 in the nation.

For more details, visit clevelandclinic.org.

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Cleveland Clinic is launching two healthcare executive education programs that focus on the challenges of leadership, management and innovation in today’s highly competitive healthcare landscape.

“One of the unique aspects of our executive education programs is peer learning. Attendees will learn directly from those involved in the daily business of healthcare excellence,” says James K. Stoller, MD, MS, a pulmonologist and critical care medicine physician and Chairman of Cleveland Clinic’s Education Institute.

The Executive Visitors’ Program is an intensive two-day program, designed for busy executives. The Samson Global Leadership Academy is a two-week immersion program that offers, among other things, a mentoring opportunity that continues after the program is over.

The programs are open to healthcare executives, including physicians, nurses and administrators.

To learn more, visit clevelandclinic.org/ExecutiveEducation.

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At the Head & Neck Institute, one of 26 institutes at Cleveland Clinic, our staff of more than 30 physicians, dentists and oral surgeons cares for adult and pediatric patients with complex ear, nose, throat and dental disorders. The institute is one of the nation’s largest otolaryngology programs, and staff members assisted in the world’s first near-total face transplant in 2008. Cleveland Clinic is a nonprofit, multispecialty academic medical center, consistently ranked among the top hospitals in America by U.S. News & World Report. Founded in 1921, it is dedicated to providing quality specialized care and includes an outpatient clinic, a hospital with more than 1,300 staffed beds, an education institute and a research institute.

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