Ear, Nose & Throat Surgeons of Western New England LLC

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would like to welcome you to the first edition of the Ear, Nose and Throat Surgeons of Western New England Magazine! We are very excited to update you on some of the more common conditions we treat.

Ear, Nose and Throat Surgeons of Western New England consists of 7 board certified ear, nose and throat physicians, 2 physician assistants and 6 audiologists. We have offices in Springfield, Northampton and Ware. Ear, Nose and Throat Surgeons has been caring for patients in western Massachusetts for over 40 years. We remain committed to providing high quality, comprehensive and state of the art care to our patients. For information about our locations and services please visit our website at www.entassociates.org.

Ear, Nose and Throat Surgeons of Western New England continues to grow and evolve. The past year has been filled with many exciting new advances in our practice which have enabled us to better serve the community.

- Completed the transition to our new, spacious, 15,000 square foot office at 100 Wason Avenue in Springfield
- Continued to work towards a paperless office with our NextGen electronic health record (EHR) system
- Installed the first low radiation CT scanner for sinus and temporal bone images in Massachusetts
- Partnered with Sleep Management Solutions to provide Continuous positive airway pressure (CPAP) in our offices to insure better patient compliance
- Began offering sublingual immunotherapy (SLIT) service for treatment of allergic rhinitis

The physicians, physician assistants and audiologists of Ear, Nose and Throat Surgeons of Western New England have the finest training and experience to treat a broad range of conditions.

- Treatment of pediatric ear, nose and throat disorders,
- Minimally invasive treatment of sinus disease,
- Voice disorders,
- Head and neck cancer,
- Audiology and hearing health, hearing restoration, balance disorders
- Sleep apnea and snoring, diagnosis and treatment
- Minimally invasive video assisted thyroidectomy and parathyroidectomy
- Chronic ear disease and reconstructive surgery for hearing loss

Please feel free to contact us if you have any questions or would like to share your feedback on any of the articles in this issue. We look forward to our next edition and hope you enjoy your readings!

Sincerely,

Barry R. Jacobs, M.D.
President, Ear, Nose and Throat Surgeons of Western New England, LLC.
Obstructive Sleep Apnea (OSA), also known as Sleep Apnea Hypopnea Syndrome (SAHS), is a disorder that has been written about for centuries, although it was not formally described until 1964 by Gastaut. In his Posthumous Papers of the Pickwick Club (1837), Charles Dickens wrote about the obese somnolent Joe who “goes on errands fast asleep and snores as he waits at a table.” Physicians over recent years have made great strides in diagnosing, treating, and clearing up some of the misconceptions about this “Pickwickian” disorder.

More than 40 million people are affected by sleep-disordered breathing (SDB) in the United States alone, and many remain undiagnosed and untreated. The prevalence of SAHS has been reported as high as 2% in women and 4% in men. This figure rises to 10% among elderly men and to 33% among morbidly obese individuals.

The International Classification of Sleep Disorders manual describes OSA or SAHS as “characterized by repetitive episodes of upper airway obstruction that occur during sleep, usually associated with a reduction in blood oxygen saturation,” with associated features of daytime sleepiness and snoring. In recent years, the high degree of morbidity and mortality associated with untreated OSA has become evident.

The typical OSA patient will have complaints of loud snoring, daytime sleepiness, difficulty concentrating during the day, waking up from snoring in the middle of the night, and restless sleep. There may also be a history of headaches, memory loss, sexual dysfunction, and depression. Patients with hypothyroidism, Down syndrome, acromegaly, and other craniofacial abnormalities may have increased incidence of OSA. Medical illnesses such as hypertension, cardiac disease, and neurologic disease are also strongly associated with OSA. A treating physician should inquire about recent weight gain, chronic use of alcohol, sleeping pills, and other sedating drugs that can cause or exacerbate OSA. The bed partner is usually the most important person to get a history from. The bed partner will often describe loud snoring and apneic episodes of which the patient may not be aware.

It is important to remember that most patients who snore do not have sleep apnea; however, snoring in itself has been associated with an increased incidence of hypertension and cardiac disease. Isolated snoring can also cause serious marital distress.

The pathophysiology behind OSA is the failure in the maintenance of patency of the upper airway during sleep respiration. The upper airway extends from the nostrils to the subglottis, and anything that leads to blockage of this pathway may cause a patient to have OSA. Therefore, the primary goals in the physical examination of a suspected OSA patient are to define the overall anatomical predisposition for airway obstruction and to recognize focal lesions that may be amenable to correction. Specifically, I recommend a top down approach. One should look at the nasal cavity and nasopharynx for obstructions due to nasal septal deviations, hypertrophied turbinates, nasal polyps, or enlarged adenoids.
The oral cavity and oropharynx should be evaluated for macroglossia, tonsillar hypertrophy, and a redundant palate. Objective measurement using the Friedman grading system is helpful. The craniofacial structure should be investigated for retrognathia (or a “weak chin”), which is often associated with a posterior displacement of the tongue and OSA.

The fiberoptic endoscope has greatly enhanced the otolaryngologist’s ability to evaluate the upper airway and to obtain further information that would suggest that the patient has OSA. A Mullers maneuver is performed as part of the fiberoptic evaluation. During the maneuver, the patient sniffs in forcefully through the nose and closes the mouth while the physician watches endoscopically at the level of the palate and at the level of the base of the tongue. This is usually done in a sitting and reclining position. Observed airway collapse during this negative inspiratory pressure is predictive of OSA.

If the diagnosis of OSA is suspected based on history and physical, then a polysomnography (sleep study) is indicated. A polysomnography is the simulation and continuous recording of physiologic measures during sleep. These include an electroencephalogram (EEG), electromyogram (EMG), electrocardiogram (EKG), electrooculogram (EOG), a measure of arterial oxygen saturation by pulse oximetry as well as respiratory airflow and effort. One of the most important values is the Respiratory Distress Index (RDI). The RDI reflects the total number of apnea, hypopneas and respiratory effort related arousals per hour of sleep and is used to characterize the results to the sleep study. An apnea by definition is a cessation of breathing for more than 10 seconds. A hypopnea is defined as a respiratory event characterized by a reduction in airflow by one half. An RDI greater than 5 is considered abnormal. Oxyhemoglobin levels below 85% during sleep are highly significant, and regular desaturations below 60% represent severe obstructive sleep apnea.

In general, the natural course of OSA is to worsen with age, if untreated. This is due to the loss of turgor in the tissue of the airway with age. A striking number of excessive nocturnal deaths have been recorded in patients with severe, untreated OSA. The deaths are thought to be due to lethal arrhythmias. Untreated and severe OSA has a higher incidence of cardiac and pulmonary disease than age-matched controls.

Conservative treatment for OSA includes weight loss if needed, and restriction of sedating substances like alcohol and sleeping pills. Pharmacologic agents (such as protriptyline and progesterone) have been tried, with limited success. One of the most effective treatments for OSA is continuous positive airway pressure (CPAP). This device, worn on the face every night, maintains a “pneumatic splint” in the airway preventing collapse and obstruction. The pressure of the room air pumped through the mask is often humidified and usually ranges from 5-20 cm H2O. Although the efficacy rate approaches 100% with CPAP, unfortunately the compliance rate of CPAP is probably closer to 70%. Some of the compliance problems have to do with social stigmata, the inability to tolerate the mask on the face while sleeping, and the problem with patients who travel often. Other nonsurgical treatments include mandibular advancement appliances which may help patients with higher Friedman tongue positions.

The surgical treatments for OSA address the nose, oropharynx, nasopharynx, and hypopharynx, and need to be tailored specifically to each patient, since the level of obstruction and anatomy are different from one individual to the next. Some of these procedures include septoplasty, turbinate reductions, nasal polypectomies, adenoidectomies, tonsillectomies, palate trimmings, Pillar Procedures, base of tongue advancements, hyoid suspensions, and maxillomandibular advancements. Success rates of surgery can often be predicted preoperatively by staging criteria. In general, patients with very large tonsils, redundant palates, and small tongues have the greatest success rates. The only 100% successful surgery is that of a tracheotomy, used rarely in patients with morbid obesity that are unable to tolerate CPAP.

OSA affects a significant proportion of the population and is often under diagnosed. It results in significant morbidity and mortality from cardiovascular disease, quality of life deficits, and performance deficits due to loss of alertness. At Ear, Nose and Throat Surgeons of Western New England our approach is to individualize the treatment of OSA. Some patients may need nasal surgery to assist in tolerating CPAP. Others may be looking for surgical cure of their disease. Multilevel surgery and frank discussions with the patient regarding goals and expectations is critical. Through our training, we are able to diagnose, treat and manage these patients long term with and without surgery.
Thyroid nodules are common. A nodule is palpable in 5% of the general population and visible on ultrasound in approximately 50%. When does a nodule warrant further investigation and treatment? Whenever considering management and workup of a nodule, risk factors for malignancy should be sought from the patient. That would include a history of radiation, nodule growth, hoarseness, dysphagia, and a family history of thyroid cancer or multiple endocrine neoplasia (MEN) syndromes. Other red flags include the extremes of age (younger than 20 or older than 70) and male gender, as these populations have a higher incidence of malignancy when a nodule is discovered.

A family history of medullary carcinoma of the thyroid should trigger genetic testing for the RET proto-oncogene. Incidentalomas among at-risk patients, those greater than 1 cm and palpable nodules should be evaluated further with ultrasound. Further work-up with ultrasound guided needle biopsy is indicated when the nodule is hypoechoic or mixed and greater than 1 cm or when there are features that have a strong correlation with malignancy. These concerning features include irregular margins, microcalcifications, increased vascularity, and extracapsular growth. Multinodular goiters have the same risk of cancer as a solitary nodule. Therefore, the nodules within a goiter that demonstrate any concerning sonographic findings should be biopsied as well.

Thyroid fine needle aspiration (FNA) has a sensitivity and specificity of 95% and is the test of choice to determine risk of malignancy. Typically, FNA results are grouped into one of the following four categories: benign, suspicious, malignant, or indeterminate. Benign nodules under 4 cm should be followed with ultrasound and biopsies should be repeated if significant growth is demonstrated. Nodules greater than 4 cm should be removed regardless of the FNA findings, as sampling error becomes a concern as the nodule size increases. Suspicious nodules may be further evaluated with a hemithyroidectomy, intraoperative frozen section, and total thyroidectomy, as indicated, if carcinoma is demonstrated.

The majority of patients who undergo hemithyroidectomy will maintain adequate thyroid function and will not require thyroid hormone replacement. Malignant lesions are typically removed with a total thyroidectomy. This recommendation is made based on the high incidence of multifocal carcinoma and for the purposes of postoperative radioactive iodine, which is most effective when the thyroid remnant is minimized. Other pathologic features found on FNA that raise concern for underlying malignancy, but are not diagnostic and are therefore “indeterminate,” include follicular neoplasm (15% risk of malignancy), Hurthle cells (14% risk of malignancy) and atypical cells (65% risks of malignancy).

Thyroidectomy is generally a safe and well-tolerated operation. Most patients who have a hemithyroidectomy can return home the same day, but patients who have a total thyroidectomy can be expected to be hospitalized overnight due to the potential for hypocalcemia. Permanent hypocalcemia is expected to occur in 25 to 50% of patients undergoing total thyroidectomy, necessitating temporary calcium and Vitamin D supplementation.

Permanent hypoparathyroidism is much less common, seen in less than 1% of patients who undergo total thyroidectomy. Similarly, temporary recurrent laryngeal nerve injury occurs in approximately 10% of total thyroidectomy patients, whereas permanent recurrent laryngeal nerve injury occurs less than 1% of the time.

Our practice is to utilize intraoperative nerve monitoring with electrodes imbedded in special endotracheal tubes. It can be helpful in identifying and preserving nerves that have an aberrant course. Furthermore, it can assist in determining whether to proceed with bilateral surgery if there has been significant nerve trauma on the first side.

Advances in technique like the use of magnifying loupes, Harmonic Scalpel and use of endoscopes have allowed us to reduce the size of our incisions to between 2-4cm in most cases. Minimally invasive video assisted thyroidectomy can be used for select lesions. There is much discussion about the use of axillary incisions for thyroidectomy. Trade-offs in scar aesthetics that are improved by some of these techniques must be balanced with potential increased time, expense, and additional personnel needed to perform these approaches, and therefore they have not been widely accepted.

Treatment of neck disease in patients with well differentiated thyroid cancer can be challenging. Fortunately, our experience with treatment of squamous cell carcinoma in the neck is slowly moving towards less morbid approaches, including limited neck dissections, transoral laser resections, radiation therapy, and endopharyngeal surgery. Our practice is to utilize intraoperative nerve monitoring with electrodes imbedded in special endotracheal tubes. It can be helpful in identifying and preserving nerves that have an aberrant course. Furthermore, it can assist in determining whether to proceed with bilateral surgery if there has been significant nerve trauma on the first side.

Surgical Treatment of Thyroid Nodules
Ear, Nose & Throat Surgeons of Western New England LLC

“We are dedicated to providing state-of-the-art, quality care to patients of all ages in the area of otolaryngology and head & neck surgery.”

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Meet Our Physicians

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- Fellow, American Rhinologic Society
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- Fellowship in Otology, Neurotology, & Skull Base Surgery, California Ear Institute at Stanford
- Board Certified by the American Board of Otolaryngology
- Director of the Baystate Medical Center Cochlear Implant Program
Comprehensive ear, nose and throat care (pediatric and adult)
Minimally invasive endoscopic sinus surgery
Microscopic laser surgery for airway and voice disorder
Head & neck cancer surgery
Benign tumors of head & neck
Thyroid and Parathyroid surgery, snoring and sleep disorders

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Migraine — More Than Just a Headache

Migraine is a common clinical problem classically characterized by episodic attacks of head pain and associated symptoms such as nausea, sensitivity to light, sound, or head movement. It is generally thought of as simply a headache problem, but it has become apparent in recent years that many patients suffer symptoms from migraine that do not have severe headaches as a dominant symptom. These patients may have a primary complaint of dizziness, ear pain, ear or head fullness, “sinus” pressure, and even fluctuating hearing loss. These atypical symptoms are often sent for evaluation to the Otolaryngologist for evaluation, and therefore we as a specialty have had to become more aware of the scope and breadth of migraine symptomatology so that we may best care for our patients.

Migraine is Much More Common than You Think

There are currently 28 million Americans with “classic” migraine. In a room with 100 people, 13 are likely to have migraine. This is as common as diabetes and asthma combined. The number of people suffering with atypical forms of migraine is unknown. Females are 3 times more likely to have migraine than males. Although any person can have migraine at any age, migraine is most common between ages 30 and 50. The peak incidence of migraine in females occurs at 35 years of age—at this age, 28% of all females have migraine headaches. The peak incidence of migraine in men occurs at 30 years of age—at this age, about 10% of all males have migraine headaches. Surveys show that only 48% of people with migraine headaches have been given a diagnosis and are being treated for their headaches. Unfortunately, only 29% of US migraine sufferers are very satisfied with their treatment. This is usually a reflection of a lack of understanding of the nature of migraine and its treatment, or lack of commitment to effective treatments.

Migraine is a lifelong problem. It may start in childhood and disappear and reappear in new forms throughout an individual’s life. In general, there is a decrease in headache intensity and an increase in the incidence of atypical symptoms of migraine (vertigo, ear pain, “sinus” pain, bowel symptoms, etc) as patients mature. It is not uncommon when we are evaluating patients for atypical migraine symptoms that they report that they stopped having “classic” migraine headaches years ago. Fortunately, these atypical symptoms do respond nicely to antimigraine therapy.

How are People with Migraine Different?

Migraine is an inherited problem of ion channels in the brain. This may result in what is best described as a “sensitive brain”. Most individuals exposed to loud noise, bright light, or excessive motion can adapt to these strong stimuli within minutes, but in the brain of a migraineur, the strength of the stimulus continues to grow until a migraine crisis occurs. This lack of ability to adapt to strong sensory stimulation helps us understand why so many patients have migraine headache or other migraine symptoms that can be provoked by bright light, excessive noise, strong smells, excessive motion, and painful stimuli. A person having a migraine who senses pain, motion, or sound will tend to have an exaggerated, distorted experience of the pain, motion, or sound that it is difficult to tolerate. Other symptoms of migraine deep in the brain may include a large variety of peculiar symptoms such as nasal congestion, retention of fluid, lethargy, nausea, fainting, anxiety, fever, and even seizures.

Treatment Guidelines for Physicians

For treatment of both classic and atypical migraine we first encourage identification of migraine triggers, which include dietary, lifestyle, and psychological factors. The most successful avenues of treatment include a strict migraine control diet, eliminating common migraine culprits including chocolate, wines, caffeine, certain cheeses, monosodium glutamate (MSG) as well as less frequently recognized problem foods containing yeast (yogurt, sourdough, freshly made bread), citrus, nuts, and nut products. We also encourage a regular sleep schedule and aerobic exercise program. We typically recommend that patients read the book, Heal Your Headache: The 1-2-3 Program for Taking Charge of Your Pain by David Buchholz, MD. This book provides a comprehensive diet plan composed completely of foods that do not trigger migraine. It also teaches and emphasizes the concepts of rebound and the additive character of migraine triggers.

Patients are also counseled to avoid vasoconstrictive medications such as pseudoephedrine (often overused for “sinus” symptoms), and to minimize the use of triptans, which may cause rebound symptoms.

When patients follow these guidelines and still have migraine-associated symptoms, we emphasize prophylactic medications in preference to the “quick fix” agents such as Fiorinal, triptans, narcotics, or steroids. Effective prophylactic medications are chosen based on the patient’s other medical problems and tolerance of side effects. These can include low-dose tricyclic antidepressants, calcium channel blockers, beta blockers, and anticonvulsants. In many situations collaboration with a neurologist who is knowledgeable in atypical migraine can be helpful.

When to Refer

Patients who don’t follow the expected patterns of response to standard treatments for sinusitis, chronic facial pressure, and dizziness may be suffering from an underlying undiagnosed migraine phenomenon and should be considered for referral. Through careful questioning, testing and imaging, the physicians at Ear, Nose and Throat Surgeons of Western New England will help to delineate these confusing entities and help get patients back on the path to wellness.
Tonsillectomy is one of the most common surgical procedures performed in the United States with over 530,000 procedures performed annually in children under 15 years of age. This puts tonsillectomy behind circumcision and ventilation tube insertion. Indications for surgery include recurrent throat infections and sleep disordered breathing (SDB), both of which can substantially affect a child’s health status and quality of life. Although there are benefits of tonsillectomy, complications may include throat pain, postoperative nausea and vomiting, delayed feeding, voice changes and bleeding.

In the January 2011 issue of Otolaryngology-Head and Neck Surgery, a new clinical practice guideline, “Tonsillectomy in Children” was introduced. The new guidelines are the first and only national, evidence-based guideline on tonsillectomy in the United States. It was created by a multidisciplinary panel including consumers, nurses, pediatricians, family medicine practitioners, anesthesiologist, sleep medicine specialist, infectious disease specialist and ear nose and throat specialist. The purpose of the guideline is to provide clinicians with evidence-based guidance in identifying children who are the best candidates for tonsillectomy. Other purposes include optimizing the before and after care of children undergoing tonsillectomy as well as improving counseling and education of families who are considering tonsillectomy for their children.

In years past, tonsillectomy was indicated for patients who had greater than 6 documented strep infections per year or evidence of obstructive breathing patterns. The current guidelines now refer to severe throat infections as those with fever of 101° or higher, swollen or tender cervical lymph nodes, exudate on the tonsils or a positive test for strep. Tonsillectomy is indicated for children with 7 or more infections in the past year, 5 per year in the past 2 years, or 3 per year in the past 3 years. Children with less frequent or severe throat infections may still benefit from tonsillectomy if there are modifying factors including antibiotic allergy or intolerance, history of peritonsillar abscess or PFAPA (periodic fever, aphthous stomatitis, pharyngitis and adenitis).

Sleep disordered breathing (SDB) is characterized by recurrent partial or complete upper airway obstruction during sleep, resulting in disruption of normal ventilation and sleep patterns. The diagnosis of SDB in children may be based on history and physical examination, audio/video taping as well as a polysomnogram. Children with tonsillar (adenoid) hypertrophy and sleep disordered breathing are candidates for tonsillectomy (adenotonsillectomy) as a means to improve such problems as growth delay, poor school performance, enuresis, and behavioral problems. Although most children with SDB improve after tonsillectomy, some children, especially those who were obese or have a syndrome affecting the head and neck (e.g., Down’s syndrome) may require further management.

For those practitioners who treat patients between 1 and 18 years of age, these guidelines offer current, evidence-based guidance in selecting patients who are the best candidates for tonsillectomy and those that are not. It also allows us to optimize the before and after care of children undergoing tonsillectomy as well as improving our ability to counsel and educate families who are considering this procedure for their children. These guidelines help improve quality, promote optimal outcomes, minimize harm and reduce inappropriate variations in care.

You can obtain a complete copy of the Tonsillectomy Guidelines by going to: http://oto.sagepub.com/content/144/1_suppl/S1 The Guidelines, which were published in full in the January issue of Otolaryngology – Head and Neck Surgery Journal are free.

If you need assistance, please call Ear, Nose and Throat Surgeons of Western New England at (413) 732-7426.
ost physicians recognize that hearing loss is a very common problem, both in adults and children. The actual statistics, however, are overwhelming. It is estimated that 34 million Americans have some degree of hearing loss, and of these approximately 1.2 million Americans have hearing loss that is classified as severe to profound. People with this degree of hearing loss are typically quite frustrated with their hearing loss and very frequently become increasingly isolated from family and friends despite the use of conventional hearing aids. What most physicians don’t realize is that these patients are likely to be excellent candidates for a cochlear implant. Statistically, only 5% of potential cochlear implant candidates in the United States have actually received an implant. It is time to recognize these patients who are suffering in silence and to give them the opportunity to hear again.

While the majority of people with hearing loss can be helped with hearing aids, for some people hearing aids may no longer be enough. For many people with more severe-to-profound sensorineural hearing loss (sometimes referred to as “nerve deafness”) in both ears, even the most advanced and powerful hearing aids may not be enough. That’s because hearing aids simply amplify sound and making sounds louder does not always make them clearer. In contrast to a hearing aid, a cochlear implant bypasses damaged hair cells in the cochlea to stimulate the hearing nerve more directly, resulting in improved auditory clarity and ability to understand speech.

**How a cochlear implant works**
A cochlear implant consists of two separate parts - a completely implanted internal device and an external processor. The external sound processor captures sounds, then filters and processes those sounds. This digital information is transmitted wirelessly across the skin to the internal part of the implant system. The internal implant converts the digital information into electrical signals that stimulates the hearing nerve within the cochlea. This bypasses the damaged hair cells and allows the brain to perceive sound.

**Cochlear Implant Candidacy**
Cochlear implants are a proven medical option for children and adults with severe-to-profound hearing loss in both ears who obtain little or no benefit from hearing aids. While it is often thought that only deaf children get cochlear implants, there is a much higher candidate population of adults and elderly people with progressive hearing loss who are outstanding candidates for cochlear implants. In many cases, people aren’t aware of the technology and the benefits a cochlear implant may provide. In addition, they may not know that cochlear implants are covered by Medicare, Medicaid and most private insurance.

Consider patients in your practice who experience any of the following,
- Struggle to understand even with powerful hearing aids
- Ask people to repeat themselves during one-on-one conversations, even in a quiet room
- Need captioning to understand television programs
- Depend on lip-reading to understand a conversation
- Avoid the phone because they can’t hear well on it
- Feel isolated and frustrated by their hearing loss
- Avoid social activities and family events

**Surgical Procedure**
A common misconception about cochlear implantation is that it is a highly invasive, dangerous surgery. The reality is that the procedure is relatively straightforward and typically takes 50 to 60 minutes under general anesthesia. It is most often done as an outpatient except for very young children. There are potential risks and complications associated with cochlear implantation, but these are quite rare. Children as young as 12 months of age are routinely implanted without difficulty. On the other end of the spectrum we have patients as old as 91 who have tolerated the procedure quite well and gone on to receive excellent benefit from the implant. Because of a slightly increased long-term risk of meningitis with a cochlear implant, it is recommended that all implant recipients receive vaccination for Pneumococcus preoperatively.

**When In Doubt, Refer**
Severe hearing loss often goes unaddressed during routine medical evaluation. Only by asking the questions to patients and their families can a physician truly recognize the degree to which hearing loss is affecting the patient. Referral to Ear, Nose and Throat Surgeons of Western New England for evaluation in these situations can result in life-changing transformations that can bring previously isolated people back into the centers of their families and friends.

For additional information please go to http://www.entassociates.org/hearing-restoration.html
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