

## Pretreatment Depression Affects HRQOL

*Health-Related Quality of Life in Head and Neck Cancer Survivors: Impact of Pretreatment Depressive Symptoms.*

Howren MB, Christensen AJ, et al:

Health Psychol 2010; 29 (January): 65-71

Mild depression prior to treatment can impact a patient's quality of life after treatment for head and neck cancer.

**Objective:** To determine whether symptoms of depression present prior to treatment for head and neck cancer can predict health-related quality of life (HRQOL) after treatment.

**Design:** Prospective, longitudinal analysis.

**Participants:** 306 individuals undergoing treatment for head and neck cancers were included. The sample was predominately male (62.7%) and Caucasian (>95%). Late-stage disease was more common (58.2%). Nearly one-half of the participants had a combination of surgery and radiotherapy.

**Methods:** Participants completed the Beck Depression Inventory and the Head and Neck Cancer Inventory prior to treatment and at 3 months and 12 months after completion of treatment. Multiple regression analysis was conducted controlling for age, gender, marital status, cancer site, cancer stage, alcohol/tobacco use, comorbidity, and pretreatment QOL.

**Results:** Depressive symptoms present prior to initiation of treatment predict poorer HRQOL at 3 months and 12 months after treatment.

**Conclusions:** Depressive symptoms can have a longitudinal impact on HRQOL after head and neck cancer treatment and should be considered prior to treatment.

**Reviewer's Comments:** Head and neck cancer and its treatments are known to have an impact on functional status, HRQOL, and general well-being. Such outcomes have the potential for association with other factors such as depression, psychosocial support, and coping abilities. Depression is suspected to play a large role in patient noncompliance and poor self-care, which may further complicate recovery and HRQOL after treatment. Previous series have estimated the incidence of depression in head and neck cancer patients to be between 16% and 44% (Karnell et al, 2006). In this paper, the authors explore the relationship between pretreatment depressive symptoms and posttreatment HRQOL. During and immediately after treatment for head and neck cancers, patients' self-perceived HRQOL is expected to be lower than baseline due to the acute toxicities of treatment. Improvement in many domains will progress to near baseline levels by 12 months after treatment is completed. Because of this established trajectory of improvement after treatment, the authors sought to determine whether pretreatment depression scores would be associated with HRQOL posttreatment. Their findings support that even mild levels of depression prior to treatment can impact HRQOL, even 1 year after treatment. Directions for consideration in future studies include evaluation of a more diverse ethnic and socioeconomic population. The data presented may be reflective of the experience of white males in their 60's but may not apply well to younger individuals, women, or other ethnic groups. In addition, the rise in head and neck cancers associated with human papillomavirus (HPV) have resulted in changes in the demographics associated with head and neck cancers, with recent reports demonstrating poorer quality of life in this subgroup. As a result, additional studies looking at depression and HRQOL in the HPV subgroup would be of additional interest. (Reviewer-Heather Starmer, MA, CCC-SLP).

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Keywords: Depression, Quality of Life, Head & Neck Cancer

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## Re-Operating in the Central Neck Is No Picnic

*Unintentional Parathyroidectomy and Hypoparathyroidism in Secondary Central Compartment Surgery for Thyroid Cancer.*

Ondik MP, McGinn J, et al:

Head Neck 2010; 32 (April): 462-466

Inadvertent removal of parathyroid tissue is relatively common after re-operative central neck dissection.

**Objective:** To examine the rate of inadvertent parathyroid removal during secondary central neck dissections for persistent or recurrent thyroid cancer.

**Design:** Retrospective review.

**Participants:** 40 patients undergoing secondary central neck dissection with or without additional surgical procedures after identification of persistent or recurrent thyroid cancer were included.

**Methods:** Clinical data were reviewed, including identification of parathyroid tissue on the pathology report, hypoparathyroidism, and the type of procedure performed.

**Results:** 40 patients were identified, in whom 42 central compartment surgeries were performed. Fourteen patients (35%) had central dissection only, 23 patients (57.5%) had lateral neck dissection, 1 (2.5%) had completion thyroidectomy, 1 (2.5%) had lateral dissection and thyroidectomy, and 1 patient had 3 separate central neck dissections performed. Parathyroid tissue was identified in 13 specimens (32.5%). Transient hypoparathyroidism was noted in 5 patients (12.5%) and permanent hypoparathyroidism in 4 patients (10%). On analysis, incidental parathyroidectomy was more commonly associated with concomitant lateral neck dissection ( $P=0.047$ ). Interestingly, inadvertent parathyroidectomy was not associated with transient or permanent hypocalcemia.

**Conclusions:** In the re-operative setting for central neck dissection, inadvertent removal of parathyroid tissue is relatively common but does not appear to be associated with hypoparathyroidism. Concomitant lateral neck dissection seems to be associated with hypoparathyroidism as well.

**Reviewer's Comments:** The incidence of unwanted removal of parathyroid gland tissue during thyroidectomy is somewhere between 6% and 20%, but little is reported about this incidence for central neck dissection in the re-operative setting. So, while 30% seems high, it is tough to make a comparison. Furthermore, it is interesting that this did not necessarily correlate with postoperative hypocalcemia, but then they did not report on the known status of the parathyroid glands from the initial surgery or pathology reports, which might have been of interest. The association between lateral neck dissection and hypoparathyroidism might indeed be a vascular phenomenon and deserves further investigation. (Reviewer-Patrick K. Ha, MD).

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Keywords: Parathyroid, Central Neck Dissection, Hypocalcemia

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## Must You Find the Nerve in a Parotidectomy?

*Postoperative Complications After Extracapsular Dissection of Benign Parotid Lesions With Particular Reference to Facial Nerve Function.*

Klintworth N, Zenk J, et al:

Laryngoscope 2010; 120 (March): 484-490

For benign tumors of the parotid, extracapsular dissection may be a reasonable option to superficial parotidectomy.

**Objective:** To determine whether functional outcomes and complication rates are high in patients who undergo extracapsular dissection of benign parotid neoplasms without identification of the facial nerve trunk.

**Design:** Retrospective chart review.

**Participants:** Patients who underwent parotidectomy for benign pathology at a single institution between 2000 and 2008.

**Methods:** Demographic and clinical data were collected for analysis. Follow-up visits recorded facial nerve function as well as general complications. All patients, regardless of type of dissection, underwent facial nerve monitoring intraoperatively.

**Results:** Of the 934 patients who underwent parotidectomy for benign neoplasms, 377 (40.4%) had extracapsular procedures performed. Seroma formation occurred in 18 patients (4.8%), hematoma in 13 (3.5%), and fistula in 8 (2.1%). All patients had intact facial nerve function prior to surgery. Immediately afterwards, 31 patients (8.2%) showed some type of facial nerve weakness. The overwhelming majority of these (87.1%) were House-Brackmann grade II, and the rest were grade III. The facial nerve paresis in 23 (74%) of these 31 patients resolved over the next 3 months to a grade I. Eight patients (6.1% of the 31 and 2.1% of the overall group) had persistent impairment at the time of the study.

**Conclusions:** The authors conclude that the extracapsular dissection technique is a safe and reasonable approach for benign parotid tumors and boasts a very low rate of facial nerve dysfunction and a low complication rate in general.

**Reviewer's Comments:** Many articles have been written about performing an extracapsular parotid dissection for benign tumors, basically avoiding identification of the facial nerve. Of course, one must be careful to distinguish that they are not advocating for enucleation, but for a true dissection where the capsule of the lesion is maintained and some cuff of normal parotid tissue is removed with the specimen. Unfortunately, this study falls short in its thoroughness; the authors do not describe clinical factors such as the sizes of the lesions, the certainty of the pathology (eg, what if it turns out to be malignant?), and basically why they chose these patients to perform these procedures, or more importantly, why the other patients were not candidates. Were these just the "easy" ones? Also, the authors do address that they intend to publish recurrence rates in the future, but that is an important question. The most interesting, positive aspect was that in the re-operative setting, finding the nerve in these patients should be easier as the trunk was never exposed. However, that probably is not the primary end point, as we strive to avoid any re-operations. So all in all, while there is a low complication rate reported, I found that their story was a bit incomplete. (Reviewer-Patrick K. Ha, MD).

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Keywords: Parotidectomy, Facial Nerve, Neoplasm

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## Ear Stapling Probably Not an Effective Means of Weight Loss

*Ear Stapling: A Risky and Unproven Procedure for Appetite Suppression and Weight Loss.*

Winter LK, Spiegel JH:

Ear Nose Throat J 2010; 89 (January): E20-E22

This case series reports multiple infections caused by ear stapling without reporting any patients who lost weight with the procedure.

**Background:** Ear stapling is a procedure that has recently gained popularity as a weight-loss method. The procedure involves placing a surgical staple near the conchal bowl. The staple is left in place for several weeks, after which it is removed and a new staple is placed in another location.

**Objective:** To describe complications of ear stapling.

**Design:** Case series.

**Participants:** 3 patients who had undergone ear stapling with the goal of weight loss.

**Methods:** Observational study.

**Interventions:** Removal of ear staple with antibiotic therapy if there were signs of infection.

**Results:** This paper reviewed 3 cases of patients presenting to an otolaryngology clinic in Boston after placement of staples in the conchal bowl with the goal of weight loss. None of these patients had experienced any weight loss from the procedure. Two patients, a 21-year-old female and a 30-year-old male, presented with pain and evidence of infection after the staple had been in place for 2 to 3 months. The staple was removed, and both patients were placed on antibiotics with resolution of symptoms. A third patient (62-year-old male) simply wanted the staple removed because he had not experienced any weight loss.

**Conclusions:** The authors concluded the ear stapling can cause infection and is not an effective means of weight loss.

**Reviewer's Comments:** Although I was not able to find any scientific studies supporting a benefit for ear stapling on weight loss, there are a few studies demonstrating an effect of acupuncture. There was a 1998 randomized controlled trial in Australia that demonstrated an effect, as well as a 2003 study that claimed a benefit. Ear stapling likely has a higher risk of infection than acupuncture because the foreign body is left in place for an extended period of time. Although this study brings to light the practice of ear candling, it is only a small case series that was biased toward enrolling patients who were dissatisfied with ear stapling. Thus, it is not possible to know the true rate of complications or weight loss from this study. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Weight Loss, Acupuncture, Ear Stapling

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*Pediatric Orogenic Intracranial Abscesses.*

Isaacson B, Mirabal C, et al:

Otolaryngol Head Neck Surg 2010; 142 (March): 434-437

Ninety percent of otogenic infections that cause intracranial abscesses are managed surgically.

**Background:** Acute mastoiditis is an infection that can spread laterally to become a neck abscess or medially to become an intracranial abscess. Can these patients be treated with IV antibiotics? Should a tympanostomy tube be placed? Or, is a mastoidectomy required? A recent paper reviews management in these patients.

**Objective:** To review the intracranial complications and management of acute mastoiditis.

**Design:** Retrospective case review.

**Participants:** 40 pediatric patients with an intracranial complication of mastoiditis.

**Methods:** Inpatient admissions were screened for ICD-9 codes that could be related to intracranial abscesses, such as acute mastoiditis, facial paralysis, meningitis, intracranial abscess, Gradenigos syndrome, and others. Exclusion criteria included age >18 years and medical records that were unavailable or likely to be inaccurate.

**Interventions:** Tympanostomy tube, mastoidectomy, intravenous (IV) antibiotics, and incision and drainage.

**Results:** Intracranial abscess formation was the most common intracranial complication (75%), followed by lateral sinus thrombosis (40%), meningitis (28%), and otic hydrocephalus (10%). In the group of patients who had only extracranial complications, the most common complication was subperiosteal abscess (60%). Among patients with an intracranial complication, the mean patient age was 6 years (range, 8 months to 14 years). Sixty percent of these patients were male, and either side was almost equally likely to be involved. The most common presenting symptoms in these patients was fever (67%), followed by otalgia (57%), then headache, otorrhea, and postauricular swelling all occurred in approximately one-third of patients. Less common, but potentially very concerning, symptoms at the time of presentation included nausea/vomiting, diplopia, seizures, and extremity weakness. For the 30 patients with intracranial abscess formation, 10% had multiple intracranial abscesses at the time of presentation. Three of these patients were treated conservatively with only IV antibiotics and tympanostomy tube placement. Incision and drainage was performed in 75% of abscesses, and a canal wall up mastoidectomy was performed in 15%. No canal wall down mastoidectomies were performed in this population. The mean hospitalization was 2 weeks, with no mortalities. Cultures demonstrated that the most common organism was *Streptococcus pneumoniae*, followed by group A strep, and *Staphylococcus aureus*.

**Conclusions:** 90% of these abscesses were managed with either incision and drainage or mastoidectomy. There were no mortalities in this study, thus even when intracranial complications of otitis media occur, they can almost always be effectively managed.

**Reviewer's Comments:** Although this study documents that intracranial complications of otitis media can be managed without a significant risk of mortality, the retrospective nature of this study does not tell us the most effective management strategy. I think it would be reasonable to perform a tympanostomy and give IV antibiotics in all of these patients. Incision and drainage and mastoidectomy would also likely allow these symptoms to resolve more quickly and have little risk of morbidity. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Hearing Loss, Mastoidectomy, Pediatrics, Antibiotics, Tympanostomy

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## Electrocochleography -- Who Uses It and Why

*Clinical Utility of Electrocochleography in the Diagnosis and Management of Ménière's Disease: AOS and ANS Membership Survey Data.*

Nguyen LT, Harris JP, Nguyen QT:

Otol Neurotol 2010; 31 (April): 455-459

Electrocochleography is perceived to have limited usefulness in Ménière's diagnosis, but it continues to be used at least occasionally by more than 50% of respondents.

**Background:** Ménière's disease is often difficult to diagnosis because of the wide spectrum of symptoms and the fluctuating nature of these symptoms over time. One test that may aid in diagnosis, but remains controversial, is electrocochleography (ECoG). The clinical interpretation of this test has focused on the amplitude ratio of the summing potential (SP) and action potential (AP) to response to auditory stimuli.

**Objective:** To survey clinical otologists to find the prevalence and indications of clinical ECoG.

**Design:** 13-Item survey.

**Participants:** 344 surveys were sent to members of the American Otological Society (AOS) and the American Neurotology Society (ANS). A large number of the membership of these 2 societies overlaps, but the authors were careful not to poll the same individual more than once.

**Methods:** A 13-item survey was sent by mail and fax. Up to 3 surveys were sent in an attempt to give nonresponders a chance to participate.

**Interventions:** ECoG use for Ménière's diagnosis.

**Results:** 143 surveys (41%) were returned. Overall, 45.5% of respondents did not use ECoG at all, 37.1% used it in some questionable cases, and 17.5% used it routinely. There was little consensus on technique, with 36.4% using a tympanic membrane surface electrode, 35.1% using a tiptrode, and 28.6% using a transtympanic needle. Almost 60% used click stimuli exclusively, 17.1% used tone bursts, and 24.3% used both. Among respondents, 73.2% thought ECoG was of indeterminate value, 3.6% believed ECoG was required to make a diagnosis of hydrops, and 8.6% considered an abnormal ECoG to be necessary to proceed with ablative therapy. Almost 80% thought ECoG findings fluctuate with the severity of symptoms, but >80% would discount results that were contradictory to their clinical suspicion. Of those in whom ECoG was not the preferred test, ENG and vestibular evoked myogenic potential were most frequently listed.

**Conclusions:** ECoG is perceived to have a low clinical usefulness by most ANS and AOS members.

**Reviewer's Comments:** I would have found it interesting to see if the perceived value of this test was correlated with factors such as the number of years in practice or the number of Ménière's patients encountered. What I find most interesting about ECoG (not addressed by this study) is its potential for diagnosis of superior canal dehiscence syndrome. ECoG has an advantage for this condition because it can be measured in the operating room with the patient under general anesthesia. This is potentially useful because it has been reported that the ECoG can normalize immediately after superior canal plugging, providing an indicator of the adequacy of a superior canal plugging. However, this is a digression. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Ménière's Disease, Vertigo, Hearing Loss

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## Continuously Monitor Acoustic Neuroma Growth

*Acoustic Neuroma Growth: A Systematic Review of the Evidence.*

Nikolopoulos TP, Fortnum H, et al:

Otol Neurotol 2010; 31 (April): 478-485

There is currently no consensus on factors that predict acoustic neuroma growth.

**Background:** Acoustic neuromas, which are more accurately described as vestibular schwannomas, will occur in approximately 1 in 1,000 people over the course of their lifetimes, with approximately 1 new tumor in every 50,000 people per year. Many of these patients who will be diagnosed with this type of tumor will learn of it after an MRI. Growth of these tumors has historically been difficult to predict, although many small tumors do not grow.

**Objective:** To review the literature to see if a consensus on factors that predict acoustic neuroma growth can be found.

**Design:** Meta-analysis.

**Participants:** Papers published on acoustic neuroma growth since 1990.

**Methods:** The authors reviewed the literature on acoustic neuroma growth by performing searches in several databases. Attempts were made to identify published sources, as well as manuscripts in press, research theses, and conference proceedings.

**Interventions:** Serial MRI.

**Results:** The percentage of tumors that were found to grow during conservative management was widely variable ranging from 18% to 73%. When studies reported a growth rate as mm/year, the average growth rate varied from 0.3 to 4.8, although individual rates as rapid as 19 mm/year were reported. In some studies, tumor regression was reported at an incidence as high as 22%. Although more than half the studies included some patients who were followed for <1 year, the mean follow-up was between 17 and 65 months. Some studies reported that the first year after diagnosis was representative of the tumor growth rate, but there were also reports of tumors that grew after an initial stable period of several years. Although several studies were reviewed for this paper, most studies on acoustic neuroma growth suffer from at least 1 serious weakness, such as retrospective design, selection bias, and poor follow-up.

**Conclusions:** There are no reliable indicators to tell us which ANs will grow. From this review, the authors conclude that most tumors do not grow, and when growth does occur, it is unpredictable; therefore, there is no safe period when a tumor no longer needs to be monitored.

**Reviewer's Comments:** Acoustic neuromas are now more commonly diagnosed, but fewer need to be removed. Although several groups have published guidelines on how frequently MRI scans should be ordered there is little consensus. Practicing otolaryngologists such as ourselves are left to decide on an individual bases when to order these scans and how to treat the minority of patients that show evidence of growth. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Acoustic Neuroma, Vestibular Schwannoma, Middle Fossa, CPA

Print Tag: Refer to original journal article

## Steroids Improve Vestibular Function as Measured by Caloric Testing

*Corticosteroids in the Treatment of Vestibular Neuritis: A Systematic Review and Meta-Analysis.*

Goudakos JK, Markou KD, et al:

Otol Neurotol 2010; 31 (February): 183-189

In patients with vestibular neuritis, steroids improve vestibular function as measured by caloric testing, but have not been shown to have a significant effect on symptoms.

**Background:** Treatment of vestibular neuritis usually includes vestibular suppressants, such as promethazine, as well as steroids and antiviral medications. Many of these patients will have their symptoms improve independent of therapy, but there are a significant number of patients who continue to have significant persistent vestibular dysfunction and dizziness for an extended period.

**Objective:** To compare the value of steroids versus placebo in the treatment of vestibular neuritis.

**Design:** Meta-analysis.

**Participants:** 159 patients with vestibular neuritis reported in 4 placebo controlled trials of steroids versus placebo.

**Methods:** For inclusion, a study had to meet the following criteria; (1) it had to be a randomized, controlled trial that compared steroids with placebo; (2) patients had to have started therapy within 5 days of symptom onset; and (3) patients needed to have had at least 1 month of follow-up after therapy. Studies that included patients who had a contraindication to steroid therapy (eg, pregnancy or diabetes) were excluded. The initial search identified 157 articles that were eventually narrowed down to 4 studies that met the inclusion criteria.

**Interventions:** Oral prednisolone/methylprednisolone versus placebo.

**Results:** 2 studies reported that steroids improved the long-term recovery of vestibular function, while the other 2 studies reported earlier recovery of function without improving the long-term prognosis. Only 1 of these studies provided data on clinical symptoms. This study did not show a significant effect of steroids at 1, 3, or 6 months. Three of the 4 studies provided enough relevant data to allow meta-analysis of caloric function. When the caloric function was examined in terms of complete recovery at 12 months, steroid treatment had a significant effect on improving the rate of recovery. When lateralization of the caloric test was examined, it was found that at 12 months, there was also a significant benefit of steroids over placebo. However, due to limited data prior to 12 months, it was not possible to perform a meta-analysis for earlier time periods.

**Conclusions:** This meta-analysis demonstrates that steroids have a significant effect on improving caloric function and symmetry 1 year after the onset of symptoms. However, there does not seem to be a significant effect of steroids on symptomatic improvement.

**Reviewer's Comments:** The advantage of meta-analysis is that it can allow more powerful conclusions than can be determined from individual papers. The power of this meta-analysis was limited because only 4 studies were included. The meta-analysis of clinical symptoms was not meaningful because only 1 study included enough data to permit analysis. Even though the study was not able to demonstrate an effect of steroid therapy on vestibular neuritis symptoms, most of us will probably continue to treat these patients with steroids based on the data that demonstrates significant improvement in caloric function. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Steroids, Dizziness, Vertigo, Vestibular Neuritis, Labyrinthitis

Print Tag: Refer to original journal article



## Wound V.A.C. Does Not Decrease Wound-Healing Complications

*A Randomized, Prospective, Controlled Study of Forearm Donor Site Healing When Using a Vacuum Dressing.*

Chio EG, Agrawal A:

Otolaryngol Head Neck Surg 2010; 142 (February): 174-178

The use of a NPD device, such as wound V.A.C., does not appear to significantly decrease the rate of radial forearm free flap donor site wound complications.

**Objective:** To compare the healing response of the radial forearm free flap (RFFF) donor site reconstructed with a split-thickness skin graft dressed with negative-pressure dressing (NPD) versus static pressure dressing (SPD).

**Design/Participants:** A randomized, controlled trial was performed at a tertiary care academic medical center. Fifty-four consecutive patients who underwent RFFF reconstruction of the head and neck were enrolled from 2007 to 2009.

**Methods:** Half of the patients were randomized to the NPD group and the other half to the SPD group; 4 patients were lost to follow-up. Patient demographic data and clinical outcome parameters were collected during the first 2 weeks and 1 month after the surgery.

**Results:** The overall flap donor site wound complication rate was 38%. During the first 2 week after surgery, the wound complication rate was 44.4% for the SPD group and 30.4% for the NPD group, a difference that was not significantly different ( $P=0.82$ ). The wound complication rate at the 1-month postoperative visit was 68.8% for the SPD group and 80% for the NPD, which was also not statistically significantly different ( $P=0.55$ ). The area of skin graft failure for the NPD group was higher than that of the SPD group (7.2 % vs 4.5%), but it was not statistically significant ( $P=0.36$ ). The presence of medical comorbidities, including peripheral vascular disease, diabetes, steroid use, and hypothyroidism, also do not significantly impact the wound complication rate.

**Conclusions:** The use of NPD does not appear to offer significant improvement in wound healing of the RFFF donor site.

**Reviewer's Comments:** Previous retrospective data have shown a reduction of wound complication with the use of NPD compared to the traditional SPD. This randomized, controlled trial shows that the improvement may not be clinically significant despite the theoretical advantage of using an NPD device. Compared to the traditional SPD, an NPD device, such as wound V.A.C., does add significant cost. However, the study's sample size is small and >33% of the subjects did not return for the second postoperative visit. (Reviewer-Tang Ho, MD).

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Keywords: Radial Forearm Free Flap, Skin Graft, Negative Pressure Dressing

Print Tag: Refer to original journal article



## How to Decrease Surgical-Site Infections

*Preventing Surgical-Site Infections in Nasal Carriers of Staphylococcus aureus.*

Bode LGM, Kluytmans JAJW, et al:

N Engl J Med 2010; 362 (January 7): 9-17

Decolonization of *S. aureus* with nasal mupirocin and whole-body skin wash with chlorhexidine can substantially reduce the rate of nosocomial skin infection in surgical patients.

**Background/Objective:** Nosocomial infection has been a significant problem throughout the hospital for many years, and otolaryngology is not immune from these issues. One of the known sources of *Staphylococcus aureus* infection has been the nose. It is still unclear whether there is a true benefit in treating nasal carriers of *S. aureus* prior to their surgery or their admission into the hospital. To answer these questions, Dr. Bode and his colleagues in the Netherlands performed a landmark study.

**Design:** Multi-institutional, randomized, double-blind, placebo-controlled study.

**Methods:** The authors screened patients for possible nasal carriage of *S. aureus* using real-time polymerase chain reaction (PCR) assay. The included patients were then randomized into 2 groups; one group received topical nasal mupirocin plus chlorhexidine soap and the other group received placebo. Inclusion criteria consisted of adult patients who were expecting at least 4 days of hospitalization for surgery or for nonsurgical treatments. Excluded were those with *S. aureus* strains sensitive to mupirocin and chlorhexidine. Nosocomial infections were followed from the start of randomization until 6 weeks after discharge. Hospital-acquired infections were verified by culture analysis. For surgical patients, preoperative intravenous antibiotics were provided according to each hospital's guidelines. **Results:** It should be noted that 88% of the patients randomized were surgical patients. The overall rate of hospital-acquired infection in the treatment group was 3.4% versus 7.7% in the placebo group. These numbers were statistically significant. The effect of mupirocin/chlorhexidine was prominent in the rate of surgical site infections, particularly deep surgical site infections. It was also noted that the onset of nosocomial infection in the placebo group was shorter than in the test group.

**Conclusions:** The authors conclude that surgical site *S. aureus* infection can be reduced by decolonizing the nose and the skin on admission.

**Reviewer's Comments:** This is a clean study demonstrating that simple decolonization of the nose and skin prior to surgery can reduce the rate of *S. aureus* infection. Although the intent of the original study was to look at all hospitalizations, the results were most notable for surgical patients with surgical site infections. Unlike previous studies that examined only the nose, Dr. Bode and his colleagues decolonized both the nose and the skin since it would be impractical to separate these 2 sites as the source of *S. aureus*. Given that only 11% of the subjects were nonsurgical, the results should only apply to surgical patients. Furthermore, these results should not be applied to outpatient surgical patients or to short-stay surgical patients. It should also be noted that these results may not apply to methicillin-resistant *S. aureus* since all the subjects in the study had methicillin-sensitive *S. aureus*. (Reviewer-Young J. Kim, MD).

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Keywords: Skin Preps, Infection Prophylaxis

Print Tag: Refer to original journal article

## Possible Association Between Vestibular Migraine and IS

*Migraine Vestibulopathy in Three Families With Idiopathic Scoliosis: A Case Series.*

Uneri A, Polat S, et al:

Cases J 2009; 2 (December): 9367

A series of patients is reported who have migraine with prominent dizziness symptoms and idiopathic scoliosis.

**Background:** Migraine is not strictly speaking an otolaryngology problem, but it is a problem we frequently deal with as a cause of sinus pain, facial pain, and dizziness. Although migraine tends to run in families, the genetics of most migraines remain unclear.

**Objective:** To describe 3 families where idiopathic scoliosis (IS) is associated with migraine vestibulopathy.

**Design:** Retrospective review of cases.

**Participants:** 7 patients in 3 families.

**Methods:** Patients were seen at the author's neurotology clinic in Turkey between September 2006 and April 2007. Testing included audiometry, electronystagmography, and posturography. The diagnosis of migraine vestibulopathy was based on at least 4 weeks of chronic dizziness, episodic vertigo or dizziness, and meeting the International Headache Society criteria for migraine.

**Results:** The first family included a mother, son, and daughter with IS who were seen for dizziness with vertigo attacks. These family members all also suffered typical migraine headache with aura. These family members had spontaneous nystagmus in darkness, but otherwise near normal vestibular function and audiometry. The second family included 2 sisters with IS accompanied by dizziness and vertigo. Both sisters had headaches that met criteria for migraine, and both also had nystagmus. The third family consisted of a mother and daughter with a history IS associated with dizziness and vertigo attacks. These patients also had headaches that met the criteria for migraine. Both the mother and daughter had spontaneous nystagmus, and the mother had a severe flat sensorineural hearing loss.

**Conclusions:** This series points out a possible association between vestibular migraine and IS.

**Reviewer's Comments:** The association between IS and vestibular migraine described in this study is an interesting one, and something I will consider when I evaluate patients with a migraine history. What is interesting in this series is that all but 1 of the patients were female (IS and migraine both have a female predominance) and that all the patients had spontaneous nystagmus. The evidence of peripheral vestibulopathy was not consistent or convincing in this series. Both congenital nystagmus and headache are evidence of central pathology, which is likely the underlying cause of these symptoms. Spontaneous nystagmus is also not a typical feature in vestibular migraine, so the etiology of symptoms in these patients may be different from the dizziness symptoms typically found in migraine patients. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Migraine, Dizziness, Vertigo, Genetics, Scoliosis

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## Trained Nurses Can Monitor Free Tissue Transfer Outcomes

*Postoperative Monitoring in Free Tissue Transfer Patients: Effective Use of Nursing and Resident Staff.*

Jackson RS, Walker RJ, et al:

Otolaryngol Head Neck Surg 2009; 141 (November): 621-625

Free flap monitoring duties performed by ICU nurses do not appear to negatively impact free flap survival.

**Background:** Free flap survival is partially dependent on early detection of flap compromise allowing for timely intervention if necessary.

**Objective:** To compare the clinical outcomes of free tissue transfers in head and neck reconstruction monitored by residents versus those monitored by nursing staff.

**Methods:** A retrospective analysis of head and neck patients requiring free tissue transfer from 2003 to 2007 at a tertiary care academic institution was performed. From 2003 to 2006 patients' free flaps were monitored by residents (n=49), and from 2006 to 2007, the monitoring was carried out primarily by the nursing staff. Patient demographics and clinical outcome data were reviewed and analyzed.

**Results:** The overall complication rate was 48%. The flap success rate was 95%. In the resident-monitored group, the complication rate was 57% and for the nursing-monitored group, the complication rate was 37% ( $P=0.05$ ). Twenty-five patients (27%) required a return to the operating room (18 in the resident-monitored group and 7 in the nurse-monitored group). Among those patients who returned to the operating room, 7 in the resident-monitored group returned for reasons related to flap viability versus 5 in the nurse-monitored group. Three failures were noted in the resident-monitored group and 2 flap failures were noted in the nurse-monitored group ( $P=0.72$ ). The median length of hospital stay was 11 days for both groups.

**Conclusions:** Flap monitoring protocol utilizing nursing staff instead of resident physicians does not appear to compromise the clinical outcome of free tissue transfer.

**Reviewer's Comments:** The high success rate of free tissue transfer surgeries reported in the literature is partially attributed to the vigilance of the clinical staff executing the flap monitoring protocol thus allowing early intervention if necessary. Although this study is retrospective in nature, it does offer some reassurance that with proper instruction and training, flap monitoring protocols can be safely carried out by the nursing staff. The lower complication rate in the nurse-monitored group is likely related to the learning curve experienced by the senior operating surgeon. The results from this study, however, do not excuse the resident surgeons from the responsibility of ensuring flap viability. Also, availability of immediate physician back-up is necessary. (Reviewer-Tang Ho, MD).

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Keywords: Free Flap, Monitoring, Residents, Nurses

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## Incidence of UHL Varies Depending on Definition of UHL Used

*Highly Variable Population-Based Prevalence Rates of Unilateral Hearing Loss After the Application of Common Case Definitions.*

Ross DS, Visser SN, et al:

Ear Hear 2010; 31 (February): 126-133

Although the incidence of unilateral hearing loss in children is in the low, single-digit percentages, the incidence can vary widely based on the definition used.

**Background:** Unilateral hearing loss (UHL) is a problem that occasionally occurs in children and can often be treated with hearing aids, bone-anchored devices, surgery, or preferential classroom seating. The exact incidence of UHL has been variable in prior reports.

**Objective:** To demonstrate how different definitions of UHL has caused a wide variation in the reported incidence of this problem.

**Design:** Population-based, cross-sectional survey.

**Participants:** Data from this study were obtained from the Third National Health and Nutrition Examination Survey (NHANES) conducted from 1988 to 1994. The sample consisted of approximately 40,000 individuals, 6,908 of which were children aged 6 to 19 years; of these, 6,101 had complete audiometric data.

**Methods:** For the purpose of this study, UHL was defined using 3 case definitions: *case definition 1*—a pure tone average (PTA) using frequencies of 2 kHz and lower of  $\geq 15$  dB in the worse ear and  $< 15$  dB in the better ear; *case definition 2*—was similar to case 1 with frequencies of up to 4 kHz used; *case definition 3*—defined the worse ear as PTA  $\geq 20$  dB at 2 kHz and below or  $> 25$  dB above 2 kHz. All criteria were calculated twice, including and excluding patients that failed tympanometry.

**Interventions:** Observational study.

**Results:** The incidence of UHL was dependent on the criteria used. Using case definition 1, the proportion of UHL was 6.3%, using case 2, the proportion was 5.8%, and using case 3, it was 3.0%. If only patients who meet all these criteria are included, the incidence drops to 1.9%. If patients who failed tympanometry are included, the incidence using each criteria increases slightly by 0.4 to 0.7%. Living in a rural area put patients at increased risk for UHL. The increased risk in rural areas may be due to greater noise exposure due to firearm use, farm machinery, etc.

**Conclusions:** The definition of UHL used makes a large difference in the reported incidence of UHL.

**Reviewer's Comments:** These results indicate that the rate of UHL varies widely based on the definition of UHL, even though on the surface these definitions seem only subtly different. This implies that there are many individuals whose hearing loss is very close to the threshold. The dataset is also limited because it contained no bone conduction or speech discrimination information. Also, despite this paper being published this year, the data set used was  $> 15$  years old. It is conceivable that the incidence in the population has now changed. This study highlights the difficulty of determining the true incidence of a hearing problem in the general population. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Hearing Loss, Unilateral Hearing Loss, Population-Based Study

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## Neck Dissection Into Level I Region Can Be Spared for Selected Tumors

### *When to Address Level I Lymph Nodes in Neck Dissections?*

Ozer E, Karapinar U, et al:

Otolaryngol Head Neck Surg 2010; 142 (March): 355-358

Oral cavity tumors may spread into level I neck region at >50%, so level I must be addressed for these tumors.

**Background/Objective:** Many clinical studies demonstrated that oral cavity tumors spread to the level I region, but their involvement in oropharyngeal as well as laryngeal and hypopharyngeal sub-sites remains somewhat controversial. The controversy stems from the myriad of retrospective studies at single institutions. The authors, therefore, investigated this issue in their series from neck dissection specimens from head and neck carcinoma patients.

**Design/Methods:** This is a retrospective analysis of the records of 243 patients who underwent neck dissection for either therapeutic or diagnostic reasons at a single institution. Level I specimens were submitted separately. The demographics of the patients, the tumor sub-sites, and lymph node positivity were analyzed.

**Results:** Oral cavity sub-site was correlated with 19.1% of level I lymph node metastases, while the rest of the sub-sites had <10% positive level I metastases. However, in advanced tumors of the larynx with locoregional prognostic factors such as extensive neck involvement, the level I region was involved as well.

**Conclusions:** Level I sparing neck dissection is oncologically sound for appropriately selected non-oral cavity tumors.

**Reviewer's Comments:** These findings reiterate those of previous retrospective studies supporting that non-oral cavity tumors do not spread to a level I region. Unfortunately, the design of this paper does not provide a better data set than others. This report does not resolve the controversy of whether level I should be dissected for non-oral cavity tumors. One of the main problems lies in the sampling bias; it is not reported whether the oropharyngeal and the laryngeal patients had radiation failures. This information is critical since the occult disease may have been treated by radiation. (Reviewer-Young J. Kim, MD).

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Keywords: Head Neck Tumors, Neck Metastasis, Level I, Neck Dissection

Print Tag: Refer to original journal article

# Traditional Tonsil Grading Using the Brodsky Tonsillar Scale

*Reproducibility of Clinical Grading of Tonsillar Size.*

Ng SK, Lee DLY, et al:

Arch Otolaryngol Head Neck Surg 2010; 136 (February): 159-162

Traditional tonsil grading was assessed for reproducibility along with alternate grading schemes using 3- and 5-point scales. While all 3 methods had acceptable intra-rater reliability, the traditional system had better inter-rater reliability than a 3-point scale.

**Background:** The scoring of tonsils is most often performed using the Brodsky scale of 1 to 4. While it is widely used, its reproducibility has not been assessed.

**Objective:** To evaluate the reliability of the Brodsky tonsil scale versus 3-point and 5-point scales.

**Design:** This was a retrospective review of tonsil size in prerecorded videotapes of 60 children. The videos were selected from those of a larger group of children enrolled in a sleep-disordered breathing study in Hong Kong. Age and gender were not reported.

**Methods:** 12 observers of varying levels (attending versus resident) in 3 specialties (otolaryngology, pediatrics, and family practice) scored the tonsils from 60 videos of the oropharynx taken with a flexible endoscope. All 12 observers scored each video in random order on 2 successive days. Three separate scoring techniques were evaluated. Inter-class correlation (ICC), a measure of inter-rater reliability, and Cronbach  $\alpha$ , a measure of internal consistency reliability, were used to assess reproducibility.

**Results:** Similar mean intraobserver ICCs were seen for the traditional Brodsky scale, the 3-point scale, and the 5-point scale (0.86, 0.83, 0.87). However, interobserver ICCs were better for the 4-point and 5-point scales (0.76, 0.78) than for the 3-point scale (0.74). An ICC of 0.75 was set as the lower limit of acceptability.

**Conclusions:** The traditional Brodsky tonsil scoring scale has acceptable interobserver and intraobserver reliability, as does a 5-point tonsil grading system. However, a 3-point scale does not have acceptable interobserver reproducibility.

**Reviewer's Comments:** I commend the authors on their attempt to assess the reliability of the traditional tonsil grading system and find it reassuring that this system appears to be fairly robust between specialties and training levels. The real key to tonsil scoring, however, is the ability to correlate tonsil size with disease. The authors suggest that polysomnographic studies should be performed to look at correlation between tonsil size and sleep-disordered breathing; however, studies thus far are mixed on the relationship between subjective tonsil grade and sleep apnea severity. In addition, it is surprising that a 3-point scale had worse reliability than the current 4-point scale, but this may be related to the fact that all of the physicians studied were already comfortable with the current tonsil grading system. The bottom line is that the traditional Brodsky tonsil grading system is reproducible and better than a 3-point system in a limited sample of physicians. (Reviewer-Stacey L. Ishman, MD).

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Keywords: Tonsil Grading, Reliability

Print Tag: Refer to original journal article

## US-Guided FNA of Neck Lesions More Effective Than Standard FNA

*Diagnostic Efficacy of Surgeon-Performed Ultrasound-Guided Fine Needle Aspiration: A Randomized Controlled Trial.*

Robitschek J, Straub M, et al:

Otolaryngol Head Neck Surg 2010; 142 (March): 306-309

US-guided FNA for thyroid lesions improves the adequacy rate of sampling palpable nodules compared to traditional FNA performed with palpation.

**Background/Objective:** As an extension of the physical exam, the use of ultrasound (US) in the otolaryngology office has expanded in the recent years. Given an improved ability to appreciate the architecture of the neck mass, US-guided fine-needle aspiration (FNA) would offer an improvement in the diagnostic yield of FNA performed in the clinical setting. The authors of this report hypothesized that this is true, and performed a trial of US-guided FNA versus palpation-guided FNA.

**Design:** A randomized, controlled trial between US-guided FNA and palpation-guided FNA was performed in a single military academic center.

**Participants/Methods:** 81 adults with a palpable neck mass >3 cm were randomized to either US-guided FNA or palpation-guided FNA. A blinded cytotechnologist assessed whether the specimen was sufficient. Inadequate specimens required more passes until sufficient specimens were obtained for cytological diagnosis. The rates of inadequacy were measured for the 2 groups. The lesions were categorized as thyroid, lymph nodes, or salivary gland.

**Results:** The rate of adequacy of the specimen for the US-guided FNA group was 84%, while the rate for palpation-guided FNA was only 58% when all tissue types were analyzed. When the analysis was subdivided according to tissue type, the adequacy rate for US-guided FNA for thyroid lesions was statistically greater than in the palpation FNA group. There was a trend for improved adequacy rates for lymph nodes and salivary glands for the US group, but these results were not statistically significant. The authors also divided the US study group into procedures performed by the attending and those performed by the residents; no differences were found between these groups.

**Conclusions:** US-guided FNA may improve the sampling adequacy rate to improve the diagnostic rate for neck lesions.

**Reviewer's Comments:** In terms of design, this is an excellent study. Despite its small sample size, the authors defined 2 groups that can be compared. The key term, however, that should be underscored is that the authors were studying the rate of adequacy of the specimen obtained from either US or the palpation method; they were not measuring the diagnostic rate of the 2 methods. In other words, should the cytotechnologist not be proficient compared to the cytopathologist in determining the adequacy of cells, this study cannot be generalized to be valid. Fortunately, there was a correlation of 97% between the cytopathologist and the cytotechnologist in this study. There is good biological plausibility to the results as well since US can define the solid portion of neck lesions to be sampled. (Reviewer-Young J. Kim, MD).

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Keywords: Neck Mass, Ultrasound-Guided FNA

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## Follicular Variant vs Classical PTC

*Clinical Behavior of Follicular Variant of Papillary Thyroid Carcinoma: Presentation and Survival: Presentation and Survival.*

Lin H, Bhattacharyya N:

Laryngoscope 2010; 120 (April): 712-716

Follicular variant of papillary thyroid carcinoma has a comparable long-term survival rate as that of papillary thyroid carcinoma.

**Background:** The traditional teaching about the follicular variant of papillary thyroid carcinoma is that its prognosis is no different than that of the classical papillary carcinoma. The evidence, however, comes from several retrospective studies with a limited number of cases. Moreover, these studies focused on locoregional recurrence rates without clearly examining long-term survival.

**Objective:** The authors of this report mined the dataset in the Surveillance, Epidemiology and End Results (SEER) database to compare the difference between the follicular variant of papillary thyroid carcinoma (FV-PTC) and classical papillary carcinoma (C-PTC).

**Methods/Design:** This is a cross-sectional analysis from the SEER database from 1988 to 2006 comparing C-PTC versus FV-PTC cohorts. Demographics, staging parameters, treatment types, and long-term survival data were obtained.

**Results:** >31,000 C-PTC and 14,000 FV-PTC cases were analyzed. No differences were found in age or T-stage presentation between the 2 cohorts. A slightly higher percentage of females than males tended to present with FV-PTC. The prevalence of nodal disease was significantly lower in the follicular variant cohort. There were no differences in the 10- or 15-year overall survival rate between the 2 cohorts. Disease-specific survival was not assessed. Cox regression analysis in this cross-sectional study showed that gender, age, T stage, and nodal status were associated with worse overall survival.

**Conclusions:** The follicular variant of papillary thyroid carcinoma has a comparable prognosis to that of classical papillary thyroid carcinoma.

**Reviewer's Comments:** This cross-sectional study confirmed our current consensus that FV-PTC does not behave differently than PTC. This confirmation was not surprising, but 2 findings in this study were interesting. First, the follicular variant tended to present with a lower percentage of nodal disease. It is unclear whether this is from the fact that this subtype was discovered after a surgical hemithyroidectomy was performed. Second, the authors noted that nodal status was associated with worse prognosis overall. They did not specify whether this is true for either histologic subtypes, but this finding goes against the grain of traditional teaching about nodal disease. Given that this is a cross-sectional analysis, this is not the best format to address this question, but the controversy about how to treat nodal disease in papillary thyroid carcinoma will continue. (Reviewer-Young J. Kim, MD).

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Keywords: Thyroid Carcinoma, Papillary, Follicular Variant

Print Tag: Refer to original journal article

## Novel Approach Can Straighten Severely Deviated Septum

### *Reconstruction of the Nasal Septum Using Polydioxanone Plate.*

Boenisch M, Trenité GJN:

Arch Facial Plast Surg 2010; 12 (January-February): 4-10

PDS plate can be used as a platform for total septal reconstruction in cases of severe septal deformity.

**Objectives:** To assess the clinical efficacy and review the authors' experience of using a resorbable polydioxanone (PDS) plate as a platform for reconstruction of severe septal deformity.

**Design:** A retrospective review of the records of 396 patients was performed. Patients had undergone septal reconstruction with a resorbable PDS plate for severe septal deformities (usually post-traumatic) since 1996 at a referral center. An external septorhinoplasty approach was used. The quadrangular cartilage was removed and carved into multiple straight fragments. The fragments were then sutured onto the resorbable PDS plate and placed back as a free graft. The graft was held in place with sutures to the upper lateral cartilages and the anterior nasal spine. In cases in which insufficient septal cartilage remained, auricular cartilage graft was harvested.

**Results:** Patient ages ranged from 17 to 61 years. The mean follow-up was 12 months. Forty-seven patients (11.9%) required the use of auricular cartilage in the reconstruction; 369 patients (93.2%) had successful correction of the septal deformity. Eighteen patients (4.5%) underwent revision surgery for residual deviation. Improved nasal flow on rhinometric evaluation was seen in 324 patients (81.8%). No significant short- or long-term complications were reported.

**Conclusions:** The use of a PDS plate as a platform can potentially facilitate the surgical reconstruction of a severe septal deviation.

**Reviewer's Comments:** The severely deviated septum presents a surgical challenge to both the novice and experienced surgeons. An external septorhinoplasty approach is often recommended for the difficult septum, and reports of extracorporeal septal reconstruction have been described. However, as the authors point out, the technique of extracorporeal septal reconstruction is time consuming and technically demanding. This paper describes the technique in which trimmed septal cartilage fragments are sutured onto a resorbable PDS plate, hence creating a straight and stable platform that can be reimplanted into the nose. This allows support of the nasal dorsum until the healing process stabilizes the cartilage and the PDS plate is subsequently resorbed. (Reviewer-Tang Ho, MD).

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Keywords: Septoplasty, Septal Reconstruction

Print Tag: Refer to original journal article

## Rigid Esophagoscopy Not Always Needed in Head and Neck Cancer Workup

*Complications of Esophagoscopy in an Academic Training Program.*

Tsao GJ, Damrose EJ:

Otolaryngol Head Neck Surg 2010; 142 (April): 500-504

Rigid esophagoscopy may be associated with higher rates of iatrogenic perforation than flexible esophagoscopy without providing significant diagnostic information.

**Background:** Although operative direct laryngoscopy is still recommended for the workup of head and neck cancer, the need for esophagoscopy and bronchoscopy is unclear. Particularly with the use of CT and PET-CT scans, many have argued that the full triple panendoscopy is not necessary. In this context, understanding the incidence of esophageal perforation and its associated risk factors are important to guide patient management.

**Objective:** The authors of this paper reviewed their series of esophagoscopy for head and neck cancer workup.

**Design/Methods:** This is a retrospective review of a single academic institution's experience with esophagoscopy from 2002 to 2007. Charts of patients who underwent esophagoscopy by otolaryngologists were reviewed looking for indications, complications, and findings of synchronous tumors in the esophagus.

**Results:** 546 cases were reviewed, and higher rates of esophageal perforation were found to be associated with rigid esophagoscopy. Perforation was noted in 2.6% of rigid esophagoscopy cases versus none with flexible procedures. Perforation was also associated with surgeons with the least amount of experience. No unexpected esophageal synchronous tumors were noted in this series.

**Conclusions:** Rigid esophagoscopy may not be necessary in the workup of head and neck cancer patients given that this was associated with greater rates of esophageal perforations with a very low yield in finding synchronous esophageal tumors.

**Reviewer's Comments:** Although the rate of esophageal perforation in this study is higher than reported from other series, the interesting finding is that the perforations occurred when the procedure was performed by junior residents and faculty members. Like all single institutional series with very low rates, it is difficult to conclude if these findings can be valid in other places. This is particularly true since there are no good statistics in this study. Given that the authors found no incidence of esophageal synchronous tumor, many would question the need to perform esophagoscopy. This report also has sample bias given that there are no rates of perforations from flexible esophagoscopy. (Reviewer-Young J. Kim, MD).

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Keywords: Head & Neck Cancer, Esophagoscopy, Perforation

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## Keeping Cool After Sensorineural Hearing Loss

*Local Hypothermia in the Treatment of Idiopathic Sudden Sensorineural Hearing Loss.*

Hato N, Hyodo J, et al:

Auris Nasus Larynx 2010; February 16 (): epub ahead of print

The authors report significantly better recovery of hearing after a sudden sensorineural hearing loss in patients who are treated with hypothermia and bedrest in addition to steroids.

**Background:** The cause of sudden sensorineural hearing loss is unknown in most patients, but it is often attributed to problems in the microcirculation, viral, or autoimmune systems. Because of these varied and unknown potential causes, an even larger number of therapies have been tried. These include steroids, which are usually the mainstay of treatment. Hypothermia has been documented as a method of reducing ischemia in other areas of the body.

**Objective:** To investigate hypothermia as a treatment for sudden sensorineural hearing loss.

**Design:** Prospective study with comparison to historical controls.

**Participants:** 86 patients were recruited between April 2006 and January 2008. Inclusion criteria were age >15 years, hearing loss of at least 40 dB, treatment within 14 days of onset, hospital admission for treatment, follow-up for at least 6 months, and no medical contraindication to steroid treatment. An additional 86 patients were selected using a retrospective chart review to match patients with similar historical patients with respect to age, gender, and degree of hearing loss.

**Methods:** Patients in both groups were treated with 60 mg of oral prednisone for 3 days which was tapered over the subsequent 7 days. Patients in the hypothermic group used a cooling pillow and bed rest for a 48-hour period.

**Results:** The complete recovery rate was 42% in the hypothermic group and only 26% in the control group. Substantial recovery or better was achieved in 65% of the hypothermic group and 50% of controls. This represented a significant difference between the control and hypothermia groups. When stratified by age, the hypothermic treatment offered a significantly better improvement in the group under age 59, but there were similar rates of hearing recovery in those over the age of 60. Recovery rates tended to be worse with delayed treatment and with worse hearing loss.

**Conclusions:** Hypothermic therapy and restriction of activities may have a significant effect on improving hearing in patients with sudden sensorineural hearing loss without increasing the risk of complications.

**Reviewer's Comments:** I was surprised at the results of this study. Hypothermic therapy has previously been used as a method of preventing ischemic injury in other areas, but this is the first study I know of that uses it as a treatment for sudden sensorineural hearing loss. The authors were able to document a 1° cooling at the tympanic membrane, but I would surmise that the amount of cooling at the cochlea is much less. It is possible that the bedrest in the hypothermia group also may have had an effect. This phenomenon deserves some additional study, and I imagine we will see a randomized controlled trial in the coming years. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Hearing Loss, Hypothermia, Deafness

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