Vestibular Atelectasis -- A New Vertigo Disorder?

**Patients With Vestibular Loss, Tullio Phenomenon, and Pressure-Induced Nystagmus: Vestibular Atelectasis?**

Wenzel A, Ward BK, et al:

Otol Neurotol 2014; 35 (June): 866-872

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Vestibular atelectasis may present with sound-induced nystagmus and vestibular hypofunction.

**Background:** Vestibular atelectasis (VA) was first described in 1988 by Merchant and Schuknecht based on temporal bone specimens. In 8 of 426 specimens they examined, it was found that there was collapse of the walls of the ampullae and utricle. The authors did not believe this was a post-mortem artifact.

**Objective:** To describe a series of patients who may have VA.

**Design:** Retrospective case series.

**Participants:** 4 patients aged 9 to 66 years with symptoms and exam findings thought to be consistent with VA who presented at Johns Hopkins between February 2009 and November 2012 after being referred for possible superior semicircular canal dehiscence.

**Methods:** The patients had a variety of tests including the head impulse test (HIT), caloric testing, CT, vestibular-evoked myogenic potentials (VEMP), and tests for sound-induced nystagmus.

**Results:** The patients described had variable symptoms that included disequilibrium, oscillopsia, self-induced episodes of vertigo, and falls. But all 4 of these patients had reduced VOR by head impulse testing. Cervical VEMP was absent in 2 of the cases, and ocular VEMP was absent in 1. All of the patients had nystagmus induced by pressure and normal hearing. All of the patients also had bilateral symptoms. The authors hypothesize that these symptoms and findings could be caused by VA. Although the mechanism is uncertain, a derangement in endolymph production is hypothesized.

**Conclusions:** VA may present with bilateral vestibular hypofunction and sound-induced nystagmus.

**Reviewer's Comments:** I found this an interesting paper and I greatly respect the authors. Everyone who sees a significant number of vertigo patients sees those in whom the diagnosis is uncertain and the symptoms are difficult to explain. This paper provides a possible explanation but remains speculative. The original paper describing VA in 1988 looked at 426 temporal bones from 213 people. Eight of these bones were found to have VA, which suggests an incidence of about 2%, or in about 1 of 50 ears. This would suggest the diagnosis is very common, which it clearly isn't clinically. It is also my understanding that the original histological study found VA to be unilateral, which makes it more difficult to describe the bilateral findings in the current patient population. There are also a lot of differences in the current paper between patients in terms of the age of onset as well as the symptoms themselves. Although a single disorder can be manifest in different ways, at the very least different etiologies are suggested. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Vertigo, Dizziness, Temporal Bone, Histology, Vestibular-Evoked Myogenic Potentials

Print Tag: Refer to original journal article
Interval Neck Dissection May Not Be Necessary After Chemoradiation

Observation Versus Neck Dissection for Positron-Emission Tomography–Negative Lymphadenopathy After Chemoradiotherapy.

Khodayari B, Daly ME, et al:

Laryngoscope 2014; 124 (April): 902-906

A negative PET-CT scan after definitive chemoradiation may preclude the need for interval neck dissection.

Background: Decades ago, studies showed that the neck harbored residual disease after radiation treatment to the neck, so interval neck dissection was instituted by many cancer centers and upheld as the standard of care for many intermediate and advanced head and neck squamous cell carcinoma. However, 2 changes have altered the landscape of head and neck oncology: one is the utilization of concurrent chemoradiation and its improved efficacy over radiation alone; another is the epidemic rise of p16-positive oropharyngeal cancers. There are several lines of evidence that concurrent chemoradiation can control neck disease, particularly for the p16+ oropharyngeal tumors. Added to this is the current use of PET-CT scan to detect metabolically hyperactive neck disease.

Objective: To determine whether observation is oncologically safe after chemoradiation when the post-treatment PET-CT is negative.

Design/Methods: The authors performed a retrospective review of their charts. They selected advanced oropharyngeal, laryngeal, hypopharyngeal, and unknown primary tumor patients with clinically positive neck disease pretreatment. They all underwent concurrent chemoradiation. Included were those with negative PET-CT post-treatment.

Results: 55 patients were included; the authors segregated those who underwent interval neck dissection and those who underwent observation. Using the parameters of 3-year survival, progression-free survival, and locoregional control, they found that the 2 groups (neck dissection vs observation) did not differ significantly.

Conclusions: Observation after negative PET-CT may be oncologically reasonable after chemoradiation.

Reviewer’s Comments: First, it should be noted that most cancer centers do not pursue interval neck dissection after chemoradiation for p16+ oropharyngeal carcinoma if there is no radiographical evidence of persistent nodal disease. There is plenty of evidence in the literature to support this. It should be noted that more than half of the cases in this series are oropharyngeal tumors. The results of this study, therefore, are not surprising. The one true unknown that this study does not address is the non-objective nature of standardized uptake value (SUV) recordings on PET-CT scans. Although they selected a SUV of <3 as being negative, it should be noted that SUV values have multiple variables, and most nuclear medicine physicians would note that there is no standardized SUV value that would render the lesion cancer free. (Reviewer-Young J. Kim, MD).

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Keywords: Interval Neck Dissection, PET-CT

Print Tag: Refer to original journal article
Greater Auricular Nerve -- Save or Sacrifice During Parotidectomy?

Preservation of Greater Auricular Nerve During Parotidectomy: Sensation, Quality of Life, and Morbidity Issues. A Systematic Review.

George M, Karkos PD, et al:

Head Neck 2014; 36 (April): 603-608

Preservation of the main branches of the greater auricular nerve is recommended whenever possible.

**Background:** The greater auricular nerve during parotidectomy is commonly sacrificed. Given that it is primarily a sensory nerve, the traditional teaching is that the attendant numbness does not affect the quality of life of these patients. There have been reports, however, that espouse the preservation of this greater auricular nerve.

**Objective:** To obtain a consensus on the impact of quality of life (QOL) on greater auricular nerve sacrifice during parotidectomy.

**Design:** Systematic review.

**Methods:** The authors screened the common online literature databases, such as PubMed and Medline, and identified 22 articles. From this initial list, 13 articles were selected since they appeared to compare QOL for those who preserve and sacrifice the nerve; of these, only 3 were randomized clinical trials. The authors tabulated the studies and provided the consensus for the recommendation of greater auricular nerve branch during parotidectomy.

**Results:** Of the 13 studies included in their review, 8 strongly recommended preservation of the posterior branch of the greater auricular nerve. One study recommended the preservation of the lobular branch, since this is the branch responsible for the ear lobe and some of the auricular skin. The increased operative time for nerve preservation ranged from 5 to 10 minutes. From these reviews, the authors recommended the preservation of the greater auricular nerve, particularly the posterior branch. However, when the preservation of the nerve was measured in terms of QOL after the surgery, the data were mixed. Looking at the literature, there was no clear consensus that the QOL measurements improved after nerve preservation.

**Conclusions:** The authors still recommend nerve preservation since there is level 1b evidence that it results in improved sensory deficit postoperatively.

**Reviewer's Comments:** There are several ways to approach this review. One is to choose a parameter that would alter how the surgeon practices. If standard QOL measurements are the litmus test, then the preservation of nerve may not be recommended. As stated by the reviewers, the literature is very uneven, and there is no clear improvement of QOL after nerve preservation. However, if the parameter is to have minimal neurological deficit after the surgery, then nerve preservation is strongly recommended. This may speak to the fact that the QOL measurements may not be sensitive enough to measure how sensory deficit can affect quality of life. Overall, this was an excellent review on this topic. (Reviewer-Young J. Kim, MD).

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Keywords: Parotidectomy, Greater Auricular Nerve, Systemic Review

Print Tag: Refer to original journal article
The strongest predictors of nodal disease for salivary gland tumors are histology and T stage and grade of tumor.

**Background:** There is a continual ongoing controversy regarding elective neck dissection for salivary gland tumors. Traditional classifications rely primarily on histology and their grade and correlation with lymph node disease.

**Objective:** Given that there are now clear sets of oncogenes and tumor suppressor genes that are associated with aggressiveness of disease in other cancer types, the authors sought to examine histology, staging, and molecular biomarkers to determine their association with nodal disease.

**Design/Methods:** In a follow-up to their previous study, the authors examined common molecular markers that were associated with prognosis. Specifically, they showed that HER2, EGFR, MET, and PTEN were associated with prognosis. In this current study, they examined these molecular markers as well as the traditional clinical parameters of histology and grade to find correlation with nodal disease in salivary gland tumors. They examined 316 salivary gland carcinomas. They stained the tumor tissue with the molecular markers noted above, namely HER2, EGFR, PTEN, and MET, using in situ hybridization. They used multivariate analysis to correlate the presence of these molecular markers with the presence of nodal disease. They also used traditional staging and histological parameters to correlate nodal disease as well.

**Results:** The authors found that advanced age, T3/4 stage, high grade, and histology of salivary duct carcinoma correlated strongly with positive nodal disease. In terms of molecular markers, they found that increased copy number gain with EGFR and HER2, alterations of MET, and deletions of PTEN also correlated with nodal disease on univariate analysis. They also found that the strongest predictor of nodal disease was the histology of salivary duct carcinoma. Aberration of MET, advanced stage, deletion of PTEN, and the histology of adenocarcinoma not otherwise specified also were predictors of nodal disease.

**Conclusions:** According to the authors, "the histological subtype is crucial for decisions regarding neck dissection. New molecular parameters may also indicate elective treatment of the neck."

**Reviewer's Comments:** Several aspects of this study were reassuring. One was that their results were consistent with the literature that nodal disease, and hence overall prognosis, correlated with grade, stage, and specific histology, such as salivary duct carcinoma. Increased copy number of HER2 and EGFR showed lymph node metastases at nearly 50% in univariate analysis separately. However, on multivariate analysis, these associations dropped significantly. The final conclusion was that traditional measurements of T stage, histology, and grade trump molecular markers as predictors of nodal disease. Interestingly, MET aberrations were also associated with nodal disease in multivariate analysis, but this needs to be further validated. (Reviewer-Young J. Kim, MD).

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**Keywords:** Cancer, Cervical Lymph Node Spread, Neck Dissection, Predictors of Nodal Disease

**Print Tag:** Refer to original journal article
IMRT Decreases Long-Term Side Effects of Radiotherapy in Head, Neck Cancer

Intensity-Modulated Versus Conventional Radiation Therapy for Oropharyngeal Carcinoma: Long-Term Dysphagia and Tumor Control Outcomes.

McBride SM, Parambi RJ, et al:

Head Neck 2014; 36 (April): 492-498

Intensity-modulated radiotherapy can decrease long-term xerostomia, but there is a potential for increased rates of esophageal strictures.

**Background:** Intensity-modulated radiotherapy (IMRT) has essentially replaced conventional radiotherapy, and IMRT is currently the standard of care for head and neck cancer patients who require radiotherapy. A phase III clinical trial sparing the parotid gland called PARSPORT showed that IMRT reduced xerostomia and quality of life for head and neck cancer patients in 2011.

**Objective:** The authors of this report examined their cohort analysis that compared IMRT versus conventional radiotherapy for oropharyngeal tumors in the head and neck.

**Participants/Methods:** The authors included 132 patients with stage 3 and 4 oropharyngeal carcinoma treated with either IMRT or conventional radiotherapy; 56 received conventional radiotherapy (CRT) while 76 received IMRT. About 20% in each group were stage 3, while the rest were stage 4. The subsites were equally divided between base of tongue and tonsil.

**Results:** IMRT patients had xerostomia rates of 6% at 3 years, while CRT had xerostomia rates >25%. There was no difference between the 2 cohorts in terms of long-term PEG dependence and shorter duration of PEG, but 50% of the IMRT group were PEG independent by 3 months, while only 14% of the CRT were PEG independent by this time. Unfortunately, 5% of the IMRT patients had increased rates of esophageal stricture, while the CRT had no incidences of strictures. Another interesting finding was that IMRT had an improved locoregional control rate that was associated with improved disease-specific mortality on a multivariate analysis to adjust for T stage and smoking status.

**Conclusions:** The authors recommended the ongoing use of IMRT for advanced head and neck oropharyngeal carcinoma.

**Reviewer's Comments:** There are some confounders that limit the finding that IMRT has improved oncologic control in this study. First, the 2 cohorts received different chemotherapeutic agents. The IMRT group had higher rates of cetuximab use. Secondly, the study was not powered to determine for differences in survival between the 2 cohorts. Third, the study did not segregate the HPV status of the oropharyngeal tumors, and the IMRT group may have had more HPV-positive tumors. However, their findings on long-term toxicities are convincing and consistent with other reports. The take-home message is that IMRT for oropharyngeal tumor can decrease the long-term side effects of radiotherapy. (Reviewer-Young J. Kim, MD).

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Keywords: Intensity-Modulated Radiotherapy, Radiotherapy, Squamous Cell Carcinoma, Dysphagia

Print Tag: Refer to original journal article
SSND Possible in Thyroid Papillary Carcinoma Patients

Feasibility of Super-Selective Neck Dissection for Indeterminate Lateral Neck Nodes in Papillary Thyroid Carcinoma.

Kim H, Jin YJ, et al:

Head Neck 2014; 36 (April): 487-491

Super-selective neck dissection for suspicious nodal disease in papillary thyroid carcinoma is feasible, but its oncological benefit is still unknown.

Background: Traditional head and neck surgeons frown on super-selective neck dissection (SSND) since they are more akin to node plucking. However, for neck disease in papillary thyroid carcinoma patients, such SSND has been proposed. Given that neck disease does not correlate with overall disease survival in this pathology, there has been a controversy regarding how to address the nodal disease.

Objective: To examine the safety and efficacy of SSND that is defined as dissection of <2 compartments.

Design/Methods: This was a case series on 620 patients who had papillary thyroid carcinoma with suspicious neck nodes in the lateral neck compartments. Of these, 34 were included in the series and underwent SSND; all also underwent CT and ultrasound of the neck prior to total thyroidectomy; fine-needle aspiration was not done.

Results: Intraoperatively, the frozen section only reported positive neck disease in only 2 patients. On final analysis, 38% had positive neck disease. All the positive neck disease was located in either level 3 or 4. Routine thyroidectomy incision was not extended to perform these super-selective neck dissections. Patients received radioactive iodine therapy (RAI) postoperatively, and there were no recurrences on follow-up at 31 months.

Conclusions: Super-selective neck dissection is feasible for papillary thyroid carcinoma patients with suspicious neck disease.

Reviewer's Comments: The biology of papillary thyroid carcinoma has allowed the de-escalation of nodal treatment, and this report re-iterates this paradigm. Many general surgeons have already adopted this approach in the management of suspicious lateral nodal disease. One important question, however, is the difference between super-selective neck dissection and node resection. One argument for SSND, of course, is the value of not extending the incision for cosmesis value. The microscopic disease is frequently responsive to RAI, so these limited surgery practices may be oncologically safe. However, the only way to answer this question is to perform a cohort study that lasts >5 to 10 years. Unfortunately, this report has not resolved the important question of whether papillary thyroid carcinoma nodal disease is a surgical disease or a medical disease. (Reviewer-Young J. Kim, MD).

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Keywords: Papillary Thyroid Carcinoma, Super-Selective Neck Dissection

Print Tag: Refer to original journal article
Are Mastoid Pressure Dressings Necessary?

Are Mastoid Pressure Dressings Necessary After Otologic Surgery to Prevent Postoperative Hematomas?
Gurgel RK, Oghalai JS:

Laryngoscope 2012; 122 (March): 485-486

Mastoid dressings may not be necessary for all otologic surgery; however, there may be other benefits to the dressings, such as protecting the wound from trauma or collecting postoperative serous drainage.

**Background:** Mastoid dressings are commonly applied after otologic surgery in order to prevent hematoma or seroma formation. The application of a mastoid dressing is a relatively simple maneuver, but there is not conclusive evidence that the dressings prevent postoperative complications.

**Objective:** To evaluate whether the application of mastoid dressings prevents postoperative hematoma or seroma formation in otologic surgery patients.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing 2 outcome measures. One was for reduction of postoperative hematoma or seroma formation in patients with mastoid dressings; the second outcome was complications resulting from the application of mastoid dressings. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. Of those, 2 studies were level 1b, 2 were level 2b, and 1 was level 4 of evidence. Overall, the studies did not support the routine use of a mastoid pressure dressing for preventing postoperative hematoma or seroma formation.

**Conclusions:** There is no significant benefit to mastoid dressings in preventing hematoma or seroma formation following otologic surgery. However, there may be other benefits to the dressings, such as protecting the wound from trauma or collecting postoperative serous drainage.

**Reviewer's Comments:** There is actually a fairly good amount of evidence for these authors to draw from, and they do a good job in analyzing the data. Their conclusions are not surprising. It is intuitive that good meticulous intraoperative hemostasis is more important than the type of dressing that is applied to the wound. They also acknowledge that there are other benefits of mastoid dressings besides just hematoma and seroma prevention. The dressings are especially important in children, who may cause manual trauma to the wound site if the dressing is not applied. The authors do a good job in qualifying their conclusions by mentioning these benefits. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Mastoid, Pressure Dressings, Surgery

Print Tag: Refer to original journal article
Antibiotic therapy alone may be sufficient for children with recurrent acute otitis media.

**Background:** Recurrent acute otitis media (AOM) is defined as 3 episodes of AOM within a 6-month span or 4 episodes in 1 year. Although the American Academy of Otolaryngology–Head and Neck Surgery recommends tympanostomy tubes for recurrent otitis media, there is debate about the effectiveness of tubes versus antibiotic therapy.

**Objective:** To evaluate whether surgical management or antibiotics should be the first-line treatment for children with recurrent AOM.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing the effectiveness of treating children with AOM with antibiotics as opposed to proceeding to surgical placement of tympanostomy tubes. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 3 studies were identified. Of those, 1 study was a systematic literature review and 2 were meta-analyses of prospective studies, giving the level of evidence of 1b. Overall, the studies demonstrated that, in many children, antibiotic management is an effective first-line approach to recurrent AOM. Children who are very symptomatic may benefit more from upfront surgery.

**Conclusions:** The authors of this study recognize that there is not enough evidence to make a definitive conclusion, but propose that the available evidence indicates that trying conservative management with antibiotics is a viable approach for most children with recurrent acute otitis media.

**Reviewer's Comments:** The authors rightfully acknowledge that the amount of evidence is not great, but try to make conclusions from it nonetheless. They suggest that there is currently not enough evidence to strongly support tympanostomy tube placement over antibiotic management for children with recurrent acute otitis media. This review is clinically useful in that it shows that both the medical and surgical options can be viable approaches. Ultimately, the treatment approach is likely to depend most on the individual patient characteristics and physician preference. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Otitis Media, Tympanostomy, Infection

Print Tag: Refer to original journal article
Facial Nerve Monitoring Cost-Effective in Chronic Ear Surgery

Is Facial Nerve Integrity Monitoring of Value in Chronic Ear Surgery?
Heman-Ackah SE, Gupta S, Lalwani AK:

Laryngoscope 2013; 123 (January): 2-3

The evidence indicates that intraoperative facial nerve monitoring is an effective tool to prevent facial nerve injury in otologic surgery.

**Background:** Injury to the facial nerve is a devastating complication of middle ear and mastoid surgery. The use of intraoperative facial nerve monitoring has been proposed as a potential method to reduce the incidence of iatrogenic facial nerve injury. Although many surgeons employ intraoperative facial nerve monitoring for middle ear and mastoid operations, the effectiveness of facial nerve monitoring in preventing such injuries has not been established.

**Objective:** To evaluate whether intraoperative facial nerve monitoring during otologic surgery decreases the incidence of iatrogenic facial nerve injury.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing the clinical and cost-effectiveness of intraoperative facial nerve monitoring for middle ear and mastoid operations. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. All of the studies were level 4 evidence, with 4 case series and 1 cost-effectiveness analysis based on the available literature. Overall, the studies demonstrated that intraoperative facial nerve monitoring is a valuable and cost-effective tool to decrease the incidence of facial nerve injury.

**Conclusions:** The evidence indicates that intraoperative facial nerve monitoring is an effective tool to prevent facial nerve injury in otologic surgery.

**Reviewer's Comments:** Given the readily available nerve monitoring technology, it is important to evaluate whether the monitoring is of value to the surgeon and patient. Despite the numerous distracting grammatical errors and the inaccurate depiction of level 4 studies as "randomized controlled trials" in this article, the demonstrated value of intraoperative nerve monitoring is important. This review is clinically useful in that it demonstrates both the clinical effectiveness and cost-effectiveness of intraoperative facial nerve monitoring for patients undergoing middle ear and mastoid surgery. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Chronic Otitis Media, Facial Nerve Monitoring, Surgery

Print Tag: Refer to original journal article
Surgery is not always necessary for patients with vocal fold polyps.

**Background:** Vocal fold polyps are non-neoplastic vocal fold lesions. Resulting from voice abuse, these benign lesions are especially bothersome to professional voice users. Many laryngologists favor surgical removal as first-line therapy for vocal fold polyps, although there is no established consensus for initial treatment modality. Conservative treatment includes voice therapy and vocal hygiene.

**Objective:** To evaluate whether conservative management is effective for patients with vocal fold polyps.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing the outcomes in patients treated with conservative, nonsurgical therapy for vocal fold polyps. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. All of the studies were of level 4 evidence. Overall, the studies demonstrated that conservative approaches can be successful in many patients with vocal fold polyps. Patients with small polyps have better results than do those with large polyps. Surgery remains a good option for patients who fail conservative management.

**Conclusions:** Based on observational studies, a large number of patients do well with just conservative therapy for vocal fold polyps.

**Reviewer's Comments:** The authors identify 5 studies, but unfortunately they are all of a fairly low level of evidence. The results of the study, although intuitive, are important. The authors demonstrate that a large number of patients, especially those with smaller polyps, improve symptomatically and/or on endoscopy after either voice therapy or vocal hygiene. This review is clinically useful in that it provides preliminary material for a management algorithm for patients with vocal fold polyps. The authors demonstrate that it is reasonable to try conservative management first, prior to making a surgical decision for these patients. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Vocal Folds, Polyps, Surgery

Print Tag: Refer to original journal article
What Is the Role of Imaging in Tinnitus?
Sajisevi M, Weissman JL, Kaylie DM:

Laryngoscope 2014; 124 (March): 583-584

Contrast-enhanced MRI is the most appropriate imaging modality for patients with unilateral non-pulsatile tinnitus.

Background: Tinnitus is the perception of sound in the absence of true external stimuli, and is extremely common. For patients with unilateral tinnitus, there is always a concern for either a vascular or neoplastic etiology. These concerns generally help guide the clinician to imaging studies. No ideal imaging modality has been defined in this patient population.

Objective: To evaluate the appropriate role of imaging in patients with tinnitus.

Design/Methods: A systematic literature review was performed, which included studies analyzing the effectiveness of different imaging modalities in patients with different tinnitus characteristics. Studies were assessed for their level of evidence, number of participants, and outcomes.

Results: 5 studies were identified, with an overall level of evidence of 2b. Overall, the studies demonstrated that patients with tinnitus can be stratified into ideal imaging groups based on their tinnitus characteristics. Those with unilateral non-pulsatile tinnitus did best with contrast-enhanced MRI, while those with pulsatile tinnitus were found to be most appropriate for a temporal bone CT angiogram/venogram.

Conclusions: The imaging modality depends on the tinnitus characteristics. Certainly, imaging is necessary to identify dangerous tinnitus etiologies such as vascular abnormalities or neoplasms, and the imaging modalities should be chosen depending on the perceived risk of these diagnoses as the cause of the patient’s tinnitus.

Reviewer’s Comments: The authors do a nice job identifying relevant studies and providing comprehensive study descriptions. One big weakness of this study is that there is no figure or table to summarize the data. That would have helped, given that they identified 5 high-quality studies for review. On the other hand, they provide a very concise and clear Best Practice summary at the end, defining exactly which patients were shown to benefit from each of the imaging modalities. This review can help the clinician determine which imaging modality is ideal for a given tinnitus patient. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Tinnitus, Imaging

Print Tag: Refer to original journal article
Surgical Intervention for Orbital Blowout Fractures

When Is Immediate Surgical Intervention Required for Isolated Orbital Blowout Fractures?

Winters R, Chastant R, Graham HD III:

Laryngoscope 2014; 124 (March): 585-586

Not all orbital blowout fractures need to be repaired immediately.

**Background:** Isolated orbital blowout fractures are those that involve the orbital floor without affecting the remaining orbit or other facial bones. Although recommendations have been made for a wide range of time windows for repair of these fractures, no definitive consensus has been reached.

**Objective:** To evaluate the optimal timing for surgical repair of isolated orbital blowout fractures.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing outcomes in patients with isolated orbital blowout fractures. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. Of those, 1 study was level 2b, 3 were level 3a, and 1 was level 4 evidence. Overall, the studies demonstrated that the timing of repair should depend on associated ophthalmologic injuries. Patients with bony fragments affecting the optic nerve, orbital asymmetry or hypoglobus, presence of bradycardia due to an oculocardiac reflex, or significant extraocular movement restriction without significant ecchymosis or edema ("white-eyed" fracture) did better with immediate repair. All other fractures did equally well if they were repaired early or in a delayed fashion.

**Conclusions:** Immediate repair of isolated orbital blowout fractures is necessary in patients with severe ophthalmologic complications of the fracture; in others, the repair can be delayed for up to 1 month.

**Reviewer's Comments:** The question the study asks is a good one, as the timing of surgical repair of orbital fractures varies between surgeons and medical centers. Given that there is no true consensus, it was good to review the literature to find an outcomes-based answer to this question. Unfortunately, the evidence is somewhat limited, with no randomized controlled studies available. The authors could have done a better job of presenting the evidence in a concise manner with a summary table. But overall, this review provides a recommendation on the timing of repair of the fractures, based on ophthalmologic effects of the fractures.

(Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Orbit, Blowout Fracture, Surgery

Print Tag: Refer to original journal article
Weight Loss and Apnea/Hypopnea Index

Does Weight Loss Affect the Apnea/Hypopnea Index?
Spencer DJ, Kacker A:

Laryngoscope 2014; 124 (April): 816-817

Many obese patients demonstrate improvements in their sleep study parameters following bariatric surgery.

**Background:** Obesity has a strong association with obstructive sleep apnea (OSA), and patients with OSA are frequently advised to lose weight to improve their symptoms. As an increasing number of morbidly obese patients undergo weight loss surgery, there may be effects on sleep in these patients. The associations between measures of OSA and surgical weight loss have not been definitively quantified.

**Objective:** To evaluate whether surgical weight loss leads to improvement in severity of OSA and associated symptoms in obese patients.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing sleep study measures, such as apnea hypopnea index (AHI), in patients with OSA undergoing weight loss surgery. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. Of those, 1 study was level 1 evidence, 1 was level 2, 1 was level 3, and 2 were level 4 evidence. Overall, the studies demonstrated that surgical weight loss effectively reduced the AHI as well as other symptoms of OSA in obese patients who were eligible for such surgery. The improvement, however, did not necessarily lead to symptom normalization or cure for OSA.

**Conclusions:** Obese patients eligible for weight loss surgery demonstrate improvements in their sleep study measures after they lose weight following surgery. Although the patients consistently improve their AHI, the available literature does not demonstrate that surgical weight loss cures OSA in a significant number of patients.

**Reviewer's Comments:** The authors point out that only one of the available studies is a randomized controlled trial. Among the studies available, however, they do not reach a clear consensus as to whether patients consistently do better in terms of their AHI following weight loss after bariatric surgery. The summary table is very useful in providing a concise summary of the available literature. This review is clinically useful in that it demonstrates that these patients consistently improve in their sleep study measures following bariatric surgery. This may ultimately require changes in their CPAP settings or may even allow some of them to no longer need the CPAP to manage their OSA. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Sleep Apnea, Weight Loss, Hypopnea

Print Tag: Refer to original journal article
Recommendations on Turbinoplasty May Change Surgical Practice

Which Inferior Turbinate Reduction Technique Best Decreases Nasal Obstruction?

Larrabee YC, Kacker A:

Laryngoscope 2014; 124 (April): 814-815

Whether with a microdebrider or ultrasound, submucosal resections combined with turbinate outfracture are clearly the most effective way to provide surgical inferior turbinate reduction.

**Background:** Inferior turbinate hypertrophy can be caused by multiple factors and can cause significant chronic nasal obstruction. Several medical and surgical approaches have been described for reduction of inferior turbinates. Among the surgical procedures, there is currently no consensus as to which procedure most effectively decreases the turbinate size.

**Objective:** To evaluate which surgical inferior turbinate reduction technique is most effective at treating chronic nasal obstruction.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing outcomes from various surgical techniques for inferior turbinate reduction. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified. All of the studies reviewed were level 1 randomized controlled trials. Overall, the studies demonstrated that submucosal resection with lateral outfracture of the inferior turbinate was the most effective technique for improving nasal breathing blocked by inferior turbinate hypertrophy. Among these studies, the microdebrider and ultrasound ablation techniques demonstrated the most improvement in nasal obstructive symptoms.

**Conclusions:** Submucosal inferior turbinate resection, also known as turbinoplasty, whether performed with a microdebrider or ultrasound technique, provides the most effective turbinate reduction; particularly when coupled with inferior turbinate outfracture.

**Reviewer's Comments:** A major strength of this study is the high level of randomized controlled studies available on this subject. The results of the studies consistently demonstrate that submucosal resection has the best and most durable inferior turbinate reduction, with associated improvement in nasal breathing. This article provides a comprehensive, but concise, review of the literature. This is a rare study in that the recommendations may actually change surgical practice by providing strong evidence toward the superior effectiveness of the described techniques. Whether with a microdebrider or ultrasound, submucosal resections combined with turbinate outfracture are clearly the most effective way to provide surgical inferior turbinate reduction. (Reviewer-Josef Shargorodsky, MD, MPH).

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Keywords: Inferior Turbinate, Nasal Obstruction, Surgery

Print Tag: Refer to original journal article
Managing Acute Mastoiditis in Children

What Is the Best Practice for Acute Mastoiditis in Children?

Chesney J, Black A, Choo D:

Laryngoscope 2014; 124 (May): 1057-1058

Children with uncomplicated acute mastoiditis can be treated with intravenous antibiotics for the first 48 hours prior to obtaining CT imaging.

**Background:** Acute mastoiditis is a common complication of acute otitis media. It involves inflammation of the mastoid air cells, and presents with pain, swelling, erythema, and mastoid tenderness. CT imaging is generally obtained during diagnostic workup, and the traditional treatment is a cortical mastoidectomy. However, newer evidence has suggested that more conservative approaches may be effective.

**Objective:** To evaluate the current literature to create an evidence-based algorithm for the treatment of acute mastoiditis in children.

**Design/Methods:** A systematic literature review was performed, and included studies analyzing diagnostic and treatment outcomes for acute mastoiditis in children. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 5 studies were identified; of those, 3 studies were level 2 and 2 were level 4 evidence. Overall, the studies demonstrated that children presenting with uncomplicated mastoiditis can be initially treated with intravenous (IV) antibiotics. CT should be obtained if there is no improvement after 48 hours. If there is evidence of subperiosteal abscess, it should be drained via an incision or needle aspiration.

**Conclusions:** An upfront CT is not necessary in all cases of acute mastoiditis. The authors propose that conservative treatment is appropriate as a first step in children with uncomplicated mastoiditis.

**Reviewer's Comments:** The authors acknowledge that none of the studies are level 1 or even 2 evidence. They do the best with what they have to work with, creating a useful, although intuitive, algorithm. The biggest difference from the current standards is that they propose not obtaining a CT until first trying 2 days of IV antibiotics. One has to be very cautious with that approach, and should be ready to obtain imaging on any sign of mastoiditis complications. They do point out that older children also tend to present differently from younger children, and may require more aggressive treatment approaches. This review provides a simple algorithm that may allow safe treatment of children with acute mastoiditis while minimizing aggressive imaging or surgical management. (Reviewer-Josef Shargorodsky, MD, MPH).

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Perioperative prophylactic antibiotics should not be given for >24 hours.

**Background:** Surgical site infections following clean head and neck operations are extremely rare, and prophylactic antibiotic treatment is not thought to be necessary in most cases. However, the American Heart Association recommends antibiotic prophylaxis for patients at risk for infective endocarditis. There are also situations, such as breach of a mucosal barrier, that require antibiotic prophylaxis. When antibiotics are indicated, there is not yet a consensus on antibiotic choice or duration.

**Objective:** To identify the most effective antibiotic choice and duration for prevention of surgical site infections in head and neck surgery in cases where the antibiotics are indicated due to increased infection risk.

**Design/Methods:** A systematic literature review was performed, which included studies analyzing patients treated with various perioperative antibiotic regimens in head and neck surgery. Studies were assessed for their level of evidence, number of participants, and outcomes.

**Results:** 6 studies were identified. All of the studies were level 1 evidence, consisting of randomized controlled trials. Overall, the studies demonstrated that there are multiple effective perioperative antibiotic regimens. The medications included clindamycin, ampicillin-sulbactam, amoxicillin-clavulanate, and cefazolin. The evidence indicated that prophylactic perioperative antibiotics should not be given for >24 hours after the operation.

**Conclusions:** There are multiple effective perioperative antibiotic regimens, although the treatment should not exceed 24 hours after surgery.

**Reviewer’s Comments:** Basically, the authors assume that most head and neck operations do not require perioperative antibiotics to prevent surgical site infections, but an evidence-based plan is needed for cases with increased risk. They do a good job in creating a comprehensive review of the literature to identify the most effective treatment regimens. They have a big advantage in that the studies are all of level 1 evidence, adding credibility to the conclusions. This review provides multiple options for medications that are all shown to be effective in preventing surgical site infections, and also recommends a duration for how long the medications should be administered. (Reviewer-Josef Shargorodsky, MD, MPH).

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