The Journal of Laryngology & Otology (2006), ***120***, *163–168.*

doi:10.1017/S0022215105000538
Printed in the United Kingdom

Abstract Selection

Effects of vestibulo-ocular reflex exercises on vestibular compensation after vestibular schwannoma surgery
Enticott JC, O'Leary SJ, Briggs RJS.
Department of Otolaryngology, The University of Melbourne, East Melbourne, Australia. enticott@unimelb.edu.au.
Otology & Neurotology (2005) Mar, Vol. 26, pp. 265–9, ISSN: 1531-7129.

Objective To assess vestibular function in a large group of vestibular schwannoma patients so that we could determine whether simple vestibular exercises speed vestibular dysfunction recovery after tumor removal surgery.

Study design A prospective investigation of the vestibular dysfunction experienced by patients in the first 12 weeks after surgery.

Setting Vestibular investigation unit at a tertiary referral institution.

Patients Sixty-five patients with identified vestibular schwannoma referred for preoperative vestibular investigations. Thirty-two men and 33 women, with a mean age of 51 years (range, 24–77 yr).

Interventions There were 27 control patients, 30 exercise patients, and 8 patients that had balance physiotherapy. Exercise patients began simple vestibulo-ocular reflex gaze stabilization exercises 3 days after surgery.

Main outcome measures Postoperative vestibular function testing was performed at 2 to 3, 6 to 7, and 10 to 12 weeks after surgery. Objective measurements of vestibular compensation status were as follows: spontaneous nystagmus and sinusoidal harmonic acceleration asymmetry and gain values. Dizziness Handicap Inventory questionnaires were used to assess subjective perceptions.

Results The main findings were reduced dispersion in vestibulo-ocular reflex asymmetry at 2 to 3 weeks, reduced mean in asymmetry at 6 to 7 weeks, less dizziness/imbalance according to the Dizziness Handicap Inventory questionnaire, and that preoperative caloric tests did not predict postoperative severity of vestibular systems.

Conclusion This large study provided unique evidence that a program of simple vestibular exercises and education can speed the rate of compensation after vestibular schwannoma surgery.

Prediction of long-term facial nerve outcomes with intraoperative nerve monitoring
Isaacson B, Kileny PR, El Kashlan HK.
University of Michigan Hospitals, Department of Otolaryngology-Head and Neck Surgery, Ann Arbor, Michigan, USA.
Otology & Neurotology (2005) Mar, Vol. 26, pp. 270–3, ISSN: 1531-7129.

Objective Evaluate the utility of a statistical equation using two independent intraoperative monitoring parameters in predicting long-term facial nerve function.

Study design Retrospective case review.

Setting Tertiary care hospital.

Patients Sixty patients undergoing resection of vestibular schwannomas with intraoperative facial nerve monitoring at a single institution.

Intervention All patients underwent microsurgical resection of vestibular schwannomas with the use of intraoperative cranial nerve monitoring.

Main outcome measure Final facial nerve outcome measured using the House-Brackmann scale at least 6 months after microsurgical resection.

Results Five out of 60 (8.3%) patients demonstrated significant long-term weakness (i.e., House–Brackmann grade III or worse). Intraoperative monitoring parameters (proximal stimulation threshold, proximal-to-distal response amplitude ratio) were accurate in predicting increased risk of long-term facial nerve dysfunction when used in a logistic regression model. A Student's *t* test confirmed the equation result was statistically significant in differentiating long-term facial nerve outcomes.

Conclusion Patients with immediate weakness are at higher risk of having long-term poor facial nerve function. The use of intraoperative monitoring parameters was reliable in predicting facial nerve outcomes. Patients with permanent facial nerve dysfunction often require rehabilitative procedures. The ability to predict facial nerve outcomes with intraoperative monitoring may allow early rehabilitative procedures to improve quality of life and prevent ocular complications.

Intraoperative electrophysiologic identification of the nervus intermedius
Ashram YA, Jackler RK, Pitts LH, Yingling CD.
Department of Physiology, Alexandria University School of Medicine, Alexandria, Egypt.
Otology & Neurotology (2005) Mar, Vol. 26, pp. 274–9, ISSN: 1531-7129.

Objective Although enormous attention has been directed to the localization and preservation of the facial nerve in acoustic neuroma surgery, the nervus intermedius has largely been ignored. In this article, we describe a method for intraoperative electrophysiologic identification of the nervus intermedius.

Study design Retrospective case review.

Setting University hospital (tertiary care center).

Patients Thirty-three patients who underwent intraoperative facial nerve monitoring for various cerebellopontine angle procedures. Recording electrodes were placed in the orbicularis oculi and orbicularis oris muscles. A constant-voltage stimulator was used to stimulate both the facial nerve and the nervus intermedius.

Interventions None.

Main outcome measure Electrophysiologic response after stimulation of the nervus intermedius.

Results Stimulation of the nervus intermedius produced long-latency, low-amplitude response recorded only on the orbicularis oris channel. The response had a mean threshold of 0.4 V, a mean latency of 11.1 ms, and a mean amplitude of 11.1 microV, all significantly different from responses to stimulation of the facial nerve.

Conclusion Knowledge of electrophysiologic features of nervus intermedius stimulation can help protect the facial nerve during cerebellopontine angle surgery. The surgeon must recognize that stimulation of the nervus intermedius can cause electromyographic activity in the facial nerve monitoring channels, but the main trunk of the facial nerve may lie in an entirely different location in the cerebellopontine angle.

Regenerative medicine of the trachea: the first human case
Omori K, Nakamura T, Kanemaru S, Asato R, Yamashita M, Tanaka S, Magrufov A, Ito J, Shimizu Y.
Department of Otolaryngology, Fukushima Medical University, School of Medicine, Fukushima City, Japan.
Annals of Otology, Rhinology and Laryngology (2005) Jun, Vol. 114, pp. 429–33, ISSN: 0003-4894.

Objectives: The objective of the present study was to demonstrate regenerative medicine of the tracheal tissue by using an in situ tissue engineering technique for airway reconstruction.

Methods Based on the previous successful experimental animal studies, the current regenerative technique was applied to repair

of the trachea of a 78-year-old woman with thyroid cancer. A Marlex mesh tube covered by collagen sponge was used as a tissue scaffold. The operative intervention included right hemithyroidectomy, resection of the trachea, and tracheoplasty using the scaffold. The right half of three rings of the trachea was resected, and the scaffold material was sutured to the defect of the trachea.

Results After 2 weeks, the mesh collagen structure of the artificial material could be seen with endoscopy in most of the implanted area. The artificial material was covered with epithelial growth after 2 months. Epithelialization continued to cover the artificial material completely for 2 years without any complications.

Conclusions The current regenerative technique avoided tracheotomy, a second operation, and deformity. Good epithelialization has been observed on the tracheal luminal surface without any complications for 2 years. Although long-term observation is required, regenerative medicine of the tracheal tissue appears feasible for airway reconstruction.

Office-based laryngoscopic observations of recurrent laryngeal nerve paresis and paralysis

Fleischer S, Schade G, Hess MM.
Department of Phoniatrics and Pediatric Audiology, University Hospital Eppendorf, University of Hamburg, Hamburg, Germany.
Annals of Otology, Rhinology and Laryngology (2005) Jun, Vol. 114, pp. 488–93, ISSN: 0003-4894.

Objectives To evaluate the endoscopic criteria of recurrent laryngeal nerve disorders, we performed a retrospective evaluation of videolaryngoscopic recordings from 50 patients with recurrent laryngeal nerve disorders.

Methods The videolaryngoscopic examination was performed with rigid and flexible endoscopes. The range of motion of three laryngeal structures was assessed: the vocal ligament, the vocal process, and the arytenoid hump (mainly the corniculate region).

Results Comparison of movement of these three structures revealed discrepancies. In 16 of 45 patients (36%) rigid endoscopy showed movements of the arytenoid hump associated with absence of any mobility of the vocal process and vocal ligament. In 5 patients the extent of movement of the vocal process and vocal ligament was less than that of the arytenoid hump. Only in 24 of 45 cases were the ratings for the vocal process, vocal ligament, and arytenoid hump identical. The findings of fiberscopy were comparable.

Conclusions In assessing recurrent laryngeal nerve disorders via laryngoscopy, sole judgment of the arytenoid hump movement can mislead. Our interpretation suggests that visible movement of the mucosa covering the arytenoid and accessory cartilages is not always paralleled by movement of the arytenoid cartilage itself. It was shown that the best criterion to rely on in endoscopy is movement of the vocal process or the vocal ligament.

Early identification of rhinocerebral mucormycosis

Safar A, Marsan J, Marglani O, Al Sebeih K, Al Harbi J, Valvoda M.
Department of Otolaryngology, University of Ottawa, Ottawa, Ontario, Canada.
Journal of Otolaryngology (2005) Jun, Vol. 34, pp. 166–71, ISSN: 0381-6605.

Objectives Mucormycosis is an acute and often fatal infection caused by a fungus of the Mucorales order of the Zygomycetes class. In the majority of cases, it is associated with an underlying disorder, such as diabetes mellitus with ketoacidosis, or with immunocompromising factors, but it may appear in healthy people, although rarely. Early diagnosis and treatment are critical to prevent an otherwise fatal outcome. This article presents and discusses the early (alarming) signs and symptoms and the predisposing factors that should be considered to avoid delays in diagnosis.

Methods We review seven cases of rhinocerebral mucormycosis admitted to our hospitals from 1998 to 2003.

Results All patients had an underlying immunocompromising factor and/or diabetes mellitus. Five patients had palatal necrotic ulcers and/or black eschars. Three patients had unilateral blindness, and two patients required orbital exenteration. Four patients died because of a delayed diagnosis.

Conclusions Early diagnosis is critical in the prevention of intracranial extension of the infection, which is the cause of death in 80% of cases. Therefore, a high index of clinical suspicion is essential in immunocompromised or diabetic patients with acute sinus infection. Identification of a fungal organism on histopathology is the most specific element for diagnosis. A team approach to management is recommended for early surgical debridement, correction of diabetic ketoacidosis, and systemic antifungal agents. Timely medical-surgical treatment proves extremely important for prognosis.

Shape-memory stapes prosthesis for otosclerosis surgery

Knox GW, Reitan H.
Northeast Florida Ear Research Institute, University of Florida, 3663 Crown Point Court, Jacksonville, FL 32257, USA.
Laryngoscope (2005) Aug, Vol. 115, pp. 1340–6, ISSN: 0023-852X.

Objectives The aim of this study was to determine the efficacy of a shape-memory alloy, Nitinol, as a component of an improved stapes prosthesis.

Study design Prospective laboratory and clinical study to develop a Nitinol stapes prosthesis.

Methods Various diameters of Nitinol wire and temperature transition variants were analysed with regard to ease of deformation, response to heating, and strength. The size and geometry of the closed hook was determined by measurement of 50 cadaver incus bones. Several heat sources for activating the shape memory were evaluated, including electrocautery, lasers, and warm water. Trial surgeries were then performed on human temporal bones in the laboratory. The closure characteristics of the Nitinol loop were studied. Magnetic resonance imaging (MRI) testing at 1.5 Tesia was performed to determine safety during MRI studies. Preliminary human subject trials were then instituted.

Results In all cases, a low heat condition was ample to activate the shape memory characteristics of the hook and return it to a closed position after it had been opened. Laser power was generally set well below the power needed for removing bone. The Nitinol loop closed snugly around the incus with application to the top of the hook with a low temperature laser setting. Almost any heat source was effective. MRI testing at 1.5 Tesia showed no movement of the prosthesis. Preliminary results in human subjects showed excellent air–bone closure. The Nitinol loop holds uniform contact around the incus.

Conclusions The Nitinol piston greatly simplifies the stapedectomy procedure by taking the need for a hand operated instrument out of the surgeon's hands. Because of the nature of the Nitinol wire, it can never over-crimp. All these characteristics make the prosthesis advantageous for otosclerosis surgery.

Cochlear implantation in deaf infants

Miyamoto RT, Houston DM, Bergeson T.
Department of Otolaryngology-Head and Neck Surgery, Indiana University School of Medicine, 699 West Drive, Indianapolis, IN 46202, USA.
Laryngoscope (2005) Aug, Vol. 115, pp. 1376–80, ISSN: 0023-852X.

Objectives With the application of universal newborn hearing screening programs, a large pool of newly identified deaf infants has been identified. The benefits of early intervention with cochlear implants (CI) is being explored. Mounting evidence suggests that age at implantation is a strong predictor of language outcomes. However, new behavioral procedures are needed to measure speech and language skills during infancy. Also, procedures are needed to analyze the speech input to young CI recipients.

Study design Cohort-sequential.

Methods Thirteen infants with profound hearing loss who were implanted between the ages of 6 to 12 months of age participated in this study. Eight participated in two new behavioral methodologies: 1) the visual habituation procedure to assess their discrimination of speech sounds; 2) the preferential looking paradigm to assess their ability to learn associations between speech sounds

and objects. Older implanted infants and normal-hearing infants were also tested for comparison. The pitch of mothers' speech to infants was analysed.

Results Patterns of looking times for the very early implanted infants were similar to those of normal hearing infants. Mothers' speech to infants with CIs was similar in pitch to normal-hearing infants who had the same duration of experience with sounds.

Conclusions No surgical or anesthetic complications occurred in this group of infants, and the pattern of listening skill development mirrors that seen in normal-hearing infants. Mothers adjust their speech to suit the listening experience of their infants.

Intranasal lysine-aspirin in aspirin-sensitive nasal polyposis: a controlled trial

Parikh AA, Scadding GK.
St Mary's Hospital, Praed Street, London W2 1NY, UK. Abhijeetparikh@hotmail.com.
Laryngoscope (2005) Aug, Vol. 115, pp. 1385–90, ISSN: 0023-852X.

Objectives/hypothesis Intranasal lysine-aspirin has been used as a method of desensitization in patients with aspirin-sensitive nasal polyps to control their recurrence and prevent frequent surgical intervention. However, the studies are limited in number, and their design is open to criticisms. Thus, we conducted a controlled trial to study the clinical effectiveness of topical lysine-aspirin in patients with aspirin-sensitive nasal polyposis.

Study design Prospective, randomized, double blind, placebo controlled, crossover trial.

Methods Aspirin-sensitive patients confirmed by intranasal challenge were enrolled and randomized to receive 16 mg of topical lysine-aspirin every 48 hours or placebo for 6 months before crossover. Polyp growth and nasal and chest symptoms were monitored using acoustic rhinometry, nasal inspiratory peak flow, peak expiratory flow rate, and a daily diary of symptom scores.

Results Twenty-two patients were enrolled. After withdrawals and drop outs, data were available on 11 patients for analysis. Multivariate analysis of measured parameters did not reveal a significant clinical benefit to patients receiving topical lysine-aspirin compared with placebo. Deterioration was similar while on lysine-aspirin or placebo.

Conclusions This is the first controlled clinical trial of topical desensitization in aspirin-sensitive nasal polyp patients. Despite the failure to demonstrate clinical benefit, tissue studies have shown a significant improvement at the microscopic level. Further work with larger numbers of patients along with conventional treatment may show a clinical improvement in these patients.

Thyroplasty type I with Montgomery implant among native French language speakers with unilateral laryngeal nerve paralysis

Laccourreye O, El Sharkawy L, Holsinger FC, Hans S, Menard M, Brasnu D.
Department of Otorhinolaryngology-Head and Neck Surgery, Hôpital Europeen Georges Pompidou, University Paris V, Assistance Publique des Hopitaux de Paris, 20–40 Rue Leblanc, 75015 Paris, France. ollivier.laccourreye@hop.egp.aphp.fr.
Laryngoscope (2005) Aug, Vol. 115, pp. 1411–7, ISSN: 0023-852X.

Objective To document the long-term results achieved with the Montgomery implant in 96 French speakers with a unilateral laryngeal nerve paralysis (ULNP).

Study design Retrospective series, inception cohort of 96 patients.

Methods Data regarding morbidity and functional results were obtained at regular visits to our clinic. All patients were followed for a minimum of 6 months or until death. Forty-two patients had a minimum of 12 months of follow-up. Early in the study, 36 patients were prospectively recorded under similar conditions before placement of the Montgomery implant and at 1, 3, 6, and 12 months postoperatively.

Results None of the 96 patients died in the immediate postoperative period. The perioperative course was unremarkable in 94.8% of cases. Perioperative problems included failure to obtain a satisfactory phonatory result in three patients, difficulty to stabilize the implant posteriorly in one patient, and fracture of the inferior rim of the thyroid cartilage window in another patient. The primary immediate postoperative problem (within the first postoperative month) was laryngeal dyspnea, noted in four patients. According to the patient's subjective assessment, speech and voice was always improved in the immediate postoperative period. However, three patients had secondary degradation of speech and voice. Revision surgery under local anesthesia resulted in a 97.9% ultimate speech and voice success rate. According to the patient's subjective assessment, adequate swallowing in the immediate postoperative period was achieved in 94.2% of cases that had swallowing problems preoperatively. A significant statistical increase in the duration parameters (phonation time, phrase grouping, speech rate) together with a statistically significant decrease in both the jitter and shimmer values was noted when comparing the preoperative and the postoperative values at 1 month. Analysis of the evolution of the speech and voice parameters at 1, 3, 6, and 12 months postoperatively showed a significant decrease in the fundamental frequency and noise-to-harmonic ratio values but did not demonstrate any significant differences for the other speech and voice parameters.

Conclusions From the reported data, we conclude that the type I thyroplasty with Montgomery implant insertion is a safe and reproducible method to treat ULNP. Furthermore, this system achieves very good and stable phonatory results. Finally, the use of this technique and implant system appears safe in patients from various cultures with ULNP from a variety of causes and severe comorbidity. Over the past decade at our department, this procedure progressively replaced the use of the intracordal injection of autologous fat, initially advocated in patients with ULNP.

Functional remobilization evaluation of the paralyzed vocal cord by end-to-side neurorrhaphy in rats

Liu HJ, Dong MM, Chi FL.
Department of Otorhinolaryngology, Eye and ENT Hospital of Fudan University, 83 Fenyang Road, Shanghai City 200031, PR China.
Laryngoscope (2005) Aug, Vol. 115, pp. 1418–20, ISSN: 0023-852X.

Objective To investigate the value of end-to-side neurorrhaphy to treat vocal cord paralysis.

Study design A prospective study evaluating the effects of end-to-side neurorrhaphy to treat vocal cord paralysis by means of fiberoptic laryngoscopy and nerve electromyography.

Methods Thirty Sprague–Dawley rats were divided into experimental group 1, experimental group 2, and a control group randomly. Right recurrent laryngeal nerve (RLN) was incised, and the distal end of the RLN was anastomosed to the right phrenic nerve by end-to-side neurorrhaphy in experimental group 1 or by end-to-end nerve anastomosis in experimental group 2, respectively. The adductor nerve branch of the right RLN was incised and anastomosed to the proximal end of the right ansa cervicalis nerve by end-to-end nerve anastomosis. Fiberoptic laryngoscopy and nerve electromyography were used to examine the vocal cord movement and nerve regeneration.

Results Three months after operation, this effect of end-to-side neurorrhaphy created a significant difference compared with the end-to-end nerve anastomosis ($P < 0.05$). The end-to-side neurorrhaphy did not lead to vocal cord movement compared with end-to-end nerve anastomosis.

Conclusion Vocal cord paralysis cannot be treated by this microsurgical technique.

Creation of a cholesteatoma model using three-dimensional cultured skin equivalents

Tanaka Y, Yaguchi Y, Wada K, Kojima H, Moriyama H.
Department of Otorhinolaryngology, Jikei University School of Medicine, 3-25-8 Nishishinbashi, Minato-Ku, Tokyo 105-8461 Japan.
Laryngoscope (2005) Aug, Vol. 115, pp. 1421–7, ISSN: 0023-852X.

Objectives/hypothesis Recent years have seen success in establishing methods for cell culture that lead to the creation of a three-dimensional tissue architecture, and this represents a great advance for the ability to carry out research in vitro. Accordingly, the present studies were carried out with the objective of using three-dimensional cultured skin equivalents for the in vitro

creation of a model of middle ear cholesteatoma, something that has heretofore been considered to be very difficult.

Study design A cholesteatoma model was created in vitro, and discussion is presented regarding the immigration theory and the retraction theory that have been proposed as explanations of the causation of cholesteatoma.

Methods Cultured skin equivalents were prepared, followed by creation of an epidermal and dermal defect in them. Then, the changes in the epidermis were investigated histologically. In addition, immunohistochemical studies were performed with regard to the effects exerted on the epidermis when the skin equivalents were cultured in a retracted state.

Results It was confirmed that, as a result of the defect in the epidermis and dermis of the cultured skin equivalents, the epidermis at the edge of the defective site migrated subepidermally, and a stratified structure was formed. On the other hand, the retraction of the epidermis and dermis exerted almost no effect on the epidermal cells themselves.

Conclusions These results lend credence to the immigration theory as an explanation of the growth of the epidermis from the defective site. Conversely, it was surmised that the retraction theory requires some other factors in addition to retraction.

A single therapy for all subtypes of horizontal canal positional vertigo

Chiou WY, Lee HL, Tsai SC, Yu TH, Lee XX.
Department of Otolaryngology, Songshan Armed Forces Hospital, National Defence Medical Center, 48 Lane 155, Kuang Fu North Road, Taipei, Taiwan, ROC. chiou.wy@msa.hinet.net.
Laryngoscope (2005) Aug, Vol. 115, pp. 1432–5, ISSN: 0023-852X.

Objective To demonstrate that a single therapy is effective for treating all subtypes of horizontal canal benign paroxysmal positional vertigo (HC-BPPV).

Study design Prospective study.

Methods Patients with HC-BPPV ($n = 89$) were diagnosed when the supine to the head-lateral test resulted in geotropic or ageotropic bilateral horizontal nystagmus. Three subtypes of HC-BPPV were defined by their characteristic patterns of nystagmus as well as by their speculative mechanism. Canalolithiasis (Can) denotes geotropic nystagmus induced by free-moving otoliths in the HC. Two forms of cupulolithiasis, characterized by otoliths attached either on the utricle-sided (Cup-U) or the canal-sided (Cup-C) cupula, were identified by whether ageotropic nystagmus resolved or changed to geotropic nystagmus on follow-up tests. Forced prolonged position (FPP), lying on the healthy side for 12 hours to easily move free otoliths to the utricle, has proven successful in treating Can. Although Cup-U and contralateral Cup-C were associated with the same positional nystagmus pattern, FPP with lying on the side of the weaker nystagmus was found to be effective treatment, as well as consistent with the speculated underlying mechanism.

Results All HC-BPPV patients including 49 with Can, 11 with Cup-C and 29 with Cup-U had complete resolution of symptoms and positional nystagmus after less than four treatment sessions.

Conclusions FPP with lying on the side of the weaker nystagmus, combined with careful observation of nystagmus evolvement, was found to be effective treatment for all subtypes of HC-BPPV in this series.

Vocal cord paralysis after laryngeal mask airway ventilation

Chan TV, Grillone G.
Department of Otolaryngology-Head and Neck Surgery, Boston University School of Medicine, 88 East Newton Street, Boston, MA 02118, USA.
Laryngoscope (2005) Aug, Vol. 115, pp. 1436–9, ISSN: 0023-852X.

The laryngeal mask airway (LMA) is being used with increasing frequency since its introduction into the United States in 1991. Currently, the LMA is being used in the United States in approximately one third of all operations or greater than 100 million surgeries. In Britain, where it was first introduced for use in 1988, the LMA is estimated to be used in up to 50% of cases. Not only has its use in elective cases increased, but the scope of indications for the LMA has also grown. Its use in emergent and difficult airway management has increased, and new LMA products have been introduced to address the limitations of the classic model. As the LMA has increased in popularity, however, so has the incidence of LMA-related complications. Cases of mucosal trauma, hematoma, tongue cyanosis, arytenoid dislocation, and lingual, hypoglossal, and recurrent laryngeal nerve paralyses have been documented in various anesthesia journals. Reports of these injuries are sparse in the otolaryngology literature. As otolaryngologists who will manage the sequelae of LMA-related injuries, we must remain cognizant of potential problems and their underlying mechanisms. We report a case of unilateral vocal cord paralysis, which required operative repair after the use of an LMA. We review the existing case reports, propose mechanisms of injury, and discuss practical applications of our findings.

Angiofibrolipoma of the ear canal

Jacob A, Kneile J, Welling DB.
Department of Otolaryngology-Head and Neck Surgery, The Ohio State University, 456 West 10th Avenue, Columbus, OH 43210, USA. entsurgeon@mac.com.
Laryngoscope (2005) Aug, Vol. 115, pp. 1461–2, ISSN: 0023-852X.

Objectives/hypothesis Described is the first reported case of an angiofibrolipoma of the ear canal in a patient who presented with right-sided conductive hearing loss and a medial canal stenosis.

Study design Case report.

Results/Conclusion This variant of lipoma contains mature adipocytes, blood vessels, and dense collagenous tissue. The physical examination can be misleading, and the diagnosis requires histopathological examination. The patient was treated with complete surgical excision, tympanoplasty, canalplasty, and skin grafting to the external auditory canal. His pure-tone average improved from 37 to 11 dB, and his air-bone gap was closed completely. The lipoma has not recurred in the 6-month period following surgery.

Long-term clinical, audiologic, and radiologic outcomes in palate cleft children treated with early tympanostomy for otitis media with effusion: a controlled prospective study

Valtonen H, Dietz A, Qvarnberg Y.
Department of Otorhinolaryngology, Kuopio University Hospital, PO Box 1277, FIN-70211 Kuopio, Finland. hannu.valtonen@kuh.fi.
Laryngoscope (2005), Vol. 115, pp. 1512–6, ISSN: 0023-852X.

Objectives The role of tympanostomy in the treatment of otitis media with effusion (OME) in children with palate cleft with regard to the otologic and audiologic outcome is controversial. Little is known about the development of the mastoid air cell system (MACS) in these children.

Study design Controlled, prospective.

Methods All children born in the hospital district area of the Central Hospital of Central Finland during the years 1983 to 1993 with palate cleft were reviewed at the age of 6 months. A total of 39 patients were followed up for 6 years after primary tympanostomy. Otologic and audiologic data were collected, and the MACS size was planimetrically measured. The control group consisted of age-matched children without palate cleft suffering from OME and were identically reviewed.

Results The otologic outcome was similar in the study group, 64.1%, and among the controls, 60.6% were healed. There were no serious otologic complications in the study group. The audiologic outcome was also similar, with a mean pure-tone average (0.5–2 kHz) of 10.5 dB and 10.9 dB for the corresponding groups. The initial size and growth of the MACS did not significantly differ between the groups.

Conclusions The prognosis of children with palate cleft treated with early tympanostomy is favorable and does not differ from children without palate cleft. Active treatment ensures normal hearing during the critical years of language, speech, and cognitive development and maintains the development of an aerated mastoid. We believe that early tympanostomy is the treatment of choice of OME in palate cleft children.

Endoscopic versus traditional approaches for excision of juvenile nasopharyngeal angiofibroma

Pryor SG, Moore EJ, Kasperbauer JL.
Department of Otorhinolaryngology, Mayo Clinic, Rochester, Minnesota 55905, USA.
Laryngoscope (2005) Jul, Vol. 115, pp. 1201–7, ISSN: 0023-852X.

Objectives Juvenile nasopharyngeal angiofibroma (JNA) is an uncommon neoplasm originating in the nasopharynx. The purpose of this study was to determine whether endoscopic approaches had been effective without increasing intraoperative blood loss, length of hospital stay, complications, and rate of recurrence as compared with traditional surgical approaches.

Study design Retrospective chart review to compare outcomes in six consecutive patients who underwent endoscopic resection with outcomes of traditional external excision of JNA at Mayo Clinic between 1975 and 2004.

Methods The medical records of patients who underwent either endoscopic or external surgical resection of JNA were reviewed retrospectively. The main outcome measures were intraoperative blood loss, length of hospital stay, complications, and recurrence. We review the reasons why we developed our current endoscopic approach to resection and highlight some of the obstacles we have encountered.

Results We identified 65 patients treated for JNA during the studied interval. Their mean age was 15 (range 6–35) years. Six consecutive patients underwent successful resection of JNA by way of an endoscopic approach since 2001. Compared with the conventional surgery group, the endoscopic group had less intraoperative blood loss (225 vs. 1,250 mL), a lower occurrence of complications (1 patient vs. $\geq$ 30 patients), shorter length of hospital stay (2 vs. 5 days), and lower rate of recurrence (0% vs. 24%).

Conclusion Endoscopic removal of JNA tumor appears to be safe and effective. Recurrence was not appreciably affected by approach.

A new instrument for intraoperative assessment of individual vocal folds

Heaton JT, Kobler JB, Hillman RE, Zeitels SM.
Department of Surgery, Harvard Medical School, Massachusetts General Hospital Boston, Massachusetts 02114, USA. jheaton@partners.org.
Laryngoscope (2005) Jul, Vol. 115, pp. 1223–9, ISSN: 0023-852X.

Objectives Intraoperative assessment of vocal fold vibration during phonomicrosurgery performed under general anesthesia may enhance surgical decision-making. We therefore developed and bench-tested a new device we refer to as the aerodynamic vocal fold driver (AVFD).

Materials and methods The AVFD comprises a hand-held probe that uses airflow to drive individual vocal folds into phonatory-like vibration. This permits stroboscopic visualization of mucosal waves with simultaneous control of subglottal air pressure. In initial experiments to validate the technique, AVFD driven phonation and conventional whole-larynx phonation were compared using excised canine larynges ($n = 14$).

Results Single vocal fold phonation using the AVFD and whole larynx phonation yielded similar, positive correlations between subglottal pressure and both amplitude and frequency of vibration. Experiments simulating vocal fold scar-related mucosal stiffening by subepithelial injection of fixative showed the expected elevation of phonation threshold pressures as measured with the AVFD. Likewise, unilateral tissue compression injury disrupted vocal fold vibration, and the AVFD was useful for quantifying improvement in the damaged vocal fold after repair with injection of cross-linked hyaluronic acid gel.

Conclusions These results show that this new instrument has the potential to provide novel and useful information for laryngeal experimentation and to improve phonosurgery.

Laryngopharyngeal reflux: prospective cohort study evaluating optimal dose of proton-pump inhibitor therapy and pretherapy predictors of response

Park W, Hicks DM, Khandwala F, Richter JE, Abelson TI, Milstein C, Vaezi MF.
Department of Gastroenterology and Hepatology, Center for Swallowing and Esophageal Disorders, Cleveland Clinic Foundation, Cleveland, Ohio 44195, USA.
Laryngoscope (2005) Jul, Vol. 115, pp. 1230–8, ISSN: 0023-852X.

Purpose Laryngopharyngeal reflux (LPR) is frequently treated with empiric proton-pump inhibitors (PPI), but the optimal dosing and duration is unknown. We performed an open label prospective cohort study to evaluate whether twice-daily (BID) PPI is more effective than once-daily (QD) PPI for the treatment of LPR.

Methods Patients diagnosed with LPR based on ear, nose, and throat (ENT) symptoms and laryngoscopy findings were enrolled. A questionnaire assessed demographics, ENT symptoms, symptom severity, and exposure to other potential laryngeal irritants. Esophageal manometry, ambulatory 24-hour pH monitoring, and upper gastrointestinal endoscopy were performed before initiation of therapy. Patients were consecutively assigned to three groups: BID PPI (lansoprazole 30 mg BID), BID PPI + H_2 receptor antagonist (H_2RA; omeprazole 20 mg BID + ranitidine 300 mg each night), or QD PPI (esomeprazole 40 mg QD). Greater than 50% primary symptom improvement from baseline defined symptom response. At 2 month follow-up, the same PPI dose was continued for responders, and PPIs were doubled for nonresponders for an additional 2 months. Repeat symptom assessment and laryngoscopy were performed at 4 month follow-up.

Results Eighty-five patients were enrolled (median age 49 years, interquartile range 44.0–65.0; 76% white; 34% male). Treatment groups were BID PPI for 30 patients, BID PPI + H_2RA for 30 patients, and QD PPI for 25 patients.

Response to therapy At 2 months, BID response occurred among 15 of 30 (50%) patients, BID + H_2RA for 15 of 30 (50%), and QD for 7 of 25 (28%) ($P = 0.03$). No statistical difference was found between the two BID PPI groups with and without H_2RA. Among the QD group nonresponders, 7 of 13 (54%) achieved symptom response with an additional 2 months of BID dosing. At 4 month follow-up, an additional 22% of responses were obtained from the two BID groups (43/60, 72%). The overall response rate for all three groups was 70% (54/77).

Predictors of outcome Pretherapy interarytenoid mucosa and true vocal folds abnormalities were associated with a twofold increase in symptom response (odds ratio 1.99 and 1.96, respectively, $P = 0.017$).

Conclusion BID PPI appears to be more effective than QD PPI in achieving clinical symptom response in suspected LPR. More response was achieved at 4 months compared with 2 months. Therefore, aggressive acid suppression with BID PPI for at least 4 months is warranted for treatment of LPR.

Detection of *Helicobacter pylori* in children with otitis media with effusion: a preliminary report

Karlidag T, Bulut Y, Keles E, Kaygusuz I, Yalcin S, Ozdarendeli A, Dabak H.
Department of Otorhinolaryngology, Firat University Medical Faculty, Elazig, Turkey. turgut_karlidag@yahoo.com.
Laryngoscope (2005) Jul, Vol. 115, pp. 1262–5, ISSN: 0023-852X.

Objective To determine the presence of *Helicobacter pylori* in the middle ear effusion of patients with otitis media with effusion (OME) by polymerase chain reaction (PCR).

Study design A prospective study in patients with OME.

Methods The study was performed on 38 patients with OME who were admitted to the ENT Clinic, Firat University from June 2003 to April 2004. In all cases, a myringotomy operation (with or without placement of a ventilation tube) was carried out. The effusion samples aspirated from the middle ear were analysed with PCR assay.

Results A total of 55 aspiration samples collected from 38 children ranging in age from 2 to 12 were included in the study. Fifteen of the subjects were girls, and 23 were boys. In 17 patients, both ears demonstrated effusions, whereas in 21 patients, only one ear had effusions. Nine (16.3%) of 55 middle ear effusion samples were shown to be *H. pylori* positive by PCR.

Conclusions H. pylori was detected in the middle ear effusion of some patients with OME. These results may have interesting implications for a possible role of *H. pylori* in OME. In addition, these

results suggest that further studies are needed to investigate the role of *H. pylori* in the etiology of OME.

Inverse association between *Mycobacterium tuberculosis* infection and atopic rhinitis in children

Obihara CC, Beyers N, Gie RP, Potter PC, Marais BJ, Lombard CJ, Enarson DA, Kimpen JLL.
Department of Paediatrics and Child Health, Centre for TB Research and Education, Faculty of Health Sciences, Stellenbosch University, South Africa.
Allergy (2005) Sep, Vol. 60, pp. 1121–5, ISSN: 0105-4538.

Background The association between *Mycobacterium tuberculosis* (MTB) infection and atopy remains controversial.

Aim To investigate the association between MTB infection and atopic rhinitis in children living in a high TB incidence area.

Methods In this cross-sectional study 418 children aged 6–14 years from an established epidemiological research-site in a poor urban community were invited to participate. They were assessed for allergic rhinitis (ISAAC questionnaire) and skin responses to tuberculin and eight environmental allergens. The presence of a BCG scar was documented, intestinal parasites and total and Ascaris lumbricoides-specific IgE levels were measured. Atopic rhinitis was defined, using the new World Allergy Organization (WAO) definition, as reported allergic rhinitis and a positive skin prick test (SPT $\geq$ 3 mm) to any allergen.

Results Among the 337 children enrolled 10.4% had allergic rhinitis, 17.5% a positive SPT and 53% a positive tuberculin skin test (TST $\geq$ 10 mm). Children with a positive TST were significantly less likely to have recent atopic rhinitis (OR (adjusted) 0.06; 95% CI 0.007–0.5) than those with a negative TST. SPTs were significantly more common in children with negative TST who had recent allergic rhinitis (OR(adj) 34.0; 95% CI 7.6–152.6), but not in children with positive TST and recent allergic rhinitis (OR(adj) 0.6; 95% CI 0.07–5.2).

Conclusions MTB infection seems to reduce the prevalence of atopic rhinitis, and influences SPT reactivity in children with allergic rhinitis from a high TB incidence area.

Elongation of the trachea during neck extension in children: Implications of the safety of endotracheal tubes

Jin Hee Kim, Ro Young Jin, Seong Won Min, Chong Soo Kim, Seong Deok Kim, Lee Jun Ho, Jae Hyon Bahk.
Department of Anesthesiology, Seoul National University Medical College, Korea.
Anesthesia and Analgesia (2005) Oct, Vol. 101, pp. 974–7, ISSN: 0003-2999.

During neck extension, the changes in distance between endotracheal tube (ETT) tip and carina may not be equal to the changes in distance between vocal cords and ETT tip because of tracheal elongation. These distances are directly related to extubation risk. Using a fiberoptic bronchoscope, the distance between ETT tip and carina was measured in the neutral position after full extension of the neck in 25 children (2–8 yr old) scheduled for elective surgery under general anesthesia. The tracheal length was then measured in the neutral position and after full extension. The distance between vocal cords and ETT tip was calculated as the tracheal length minus the distance between ETT tip and carina. After full extension, the tracheal length (7.97 ± 0.85 cm) was increased by 0.95 ± 0.43 cm, and the change in distance between vocal cords and ETT tip was -1.08 ± 0.47 cm, whereas the change in distance between ETT tip and carina was 2.02 ± 0.58 cm. These results suggest that neck extension actually displaces the ETT tip to the vocal cords, increasing the risk of tracheal extubation in older children, although the actual displacement of ETT tip to vocal cords is reduced by tracheal lengthening.

Implications The distance between endotracheal tube tip and vocal cords is directly related to the risk of exubation. Despite tracheal elongation, neck extension actually displaced the endotracheal tube tip to the vocal cords in older children.

Efficacy, cost-effectiveness, and tolerability of mometasone furoate, levocabastine, and disodium cromoglycate nasal sprays in the treatment of seasonal allergic rhinitis

Lange B, Lukat K, Rettig K, Holtappels G, Bachert C.
Institut fuer Atemwegsforschung GmbH, Duesseldorf, Germany. dnreblange@aol.com.
Annals of Allergy, Asthma and Immunology (2005) Sep, Vol. 95, pp. 272–82, ISSN: 1081–1206.

Background Current guidelines recommend intranasal glucocorticosteroids as first-line therapy for seasonal allergic rhinitis.

Objective To compare the efficacy, cost-effectiveness, and tolerability of the topical glucocorticosteroid mometasone furoate, the topical antihistamine levocabastine hydrochloride, and the cromone disodium cromoglycate in seasonal allergic rhinitis.

Methods This study was performed during the 2003 grass pollen season as an open, randomized, parallel-group, single-center study of 123 patients assigned to receive mometasone furoate (200 microg once daily), levocabastine hydrochloride (200 microg twice daily), or disodium cromoglycate (5.6 mg 4 times daily). Symptom scores and nasal inspiratory peak flow measurements were recorded in a patient diary. The global efficacy of the study medication was evaluated by patients after treatment. Eosinophil cationic protein concentrations were measured in nasal secretions before and after treatment. Costeffectiveness was evaluated as medication cost per treatment success.

Results Mometasone furoate therapy was significantly superior to the use of levocabastine or disodium cromoglycate with respect to all nasal symptoms, the global evaluation of efficacy, and eosinophil cationic protein concentration. Furthermore, mometasone furoate therapy was significantly superior to disodium cromoglycate therapy with respect to nasal inspiratory peak flow. Medication cost per treatment success was lowest with mometasone furoate use and highest with levocabastine use.

Conclusion This is the first study to compare mometasone furoate nasal spray with nonsteroidal topical treatments for seasonal allergic rhinitis. Mometasone furoate nasal spray was confirmed as a first-choice topical treatment option for seasonal allergic rhinitis.

Errata

JLO;**120**;1 Abdul A Qureshi, Nigel D Padgham, Dan Jiang. pp. 5–9. In page 6, paragraph 3, the operations were grouped as follows: revision mastoidectomy, atticotomy, attico-antrostomy, excision middle-ear cholesteatoma and lateral petrousectomy were assigned to the category of 'modified radical mastoidectomy' (MRM), i.e. revision mastoidectomy, atticotomy and attico-antrostomy were not assigned as such. The footnote on page 5 should read [†]Department of Otolaryngology, Head and Neck Surgery, Guy's Hospital, London, UK.