

Abstract Selection

Surgeon information giving practices prior to laryngectomy: a national survey. Stafford, N. D., Lewin, R. J., Nash, P., Hardman, G. F. Department of Head Neck Surgery, Hull Royal Infirmary, UK. *Annals of the Royal College of Surgeons of England* (2001) November, Vol. 83 (6), pp. 371–5.

Prior to the proposed development of a pretreatment counselling package for patients with cancer of the larynx or pharynx, study was undertaken to determine current information giving practice prior to laryngectomy. A postal questionnaire was sent to all UK ENT consultants registered in the Medical Directory. The response rate was 88 per cent, with 48 per cent meeting the study's entry criteria. Counselling practice varies widely. Surgeons report an average of 15 min available for discussion with the patient; 84 per cent gave the diagnosis and discussed the treatment options at the same consultation. The size of the department, as measured by cases seen per year, did not correlate with the consultant time although it did with the numerous different issues discussed. Whilst the survey supports the need and desire for an appropriate counselling package, many surgeons feel that they alone know what the patient's information needs are.

Surgery and functional outcomes in deaf children receiving cochlear implants before age two years. Hehar, S. S., Nikolopoulos-Thomas, P., Gibbin-Kevin, P., O'Donoghue-Gerard, M. Department of Otolaryngology, University Hospital, Queen's Medical Center NHS Trust, Nottingham, England. *Archives of Otolaryngology – Head and Neck Surgery* (2002) January, Vol. 128 (1), pp. 11–4.

OBJECTIVE: To examine the feasibility of cochlear implantation in children younger than two years regarding surgery and functional outcomes. **DESIGN:** Prospective study. **SETTING:** Tertiary pediatric cochlear implant center. **PATIENTS:** A consecutive sample of 12 children younger than two years at the time of cochlear implantation (eight boys and four girls). The cause of hearing loss was meningitis in six children and congenital in six. **INTERVENTIONS:** Multichannel cochlear implantation using the Nucleus C124M (Cochlear Co., Sydney, Australia) device. Functional outcome was assessed using the Listening Progress Profile and the Categories of Auditory Performance. **MAIN OUTCOME MEASURES:** Perioperative and postoperative surgical complications and functional outcome. **RESULTS:** Eight children had a completely patent cochlea. Four children required a three to five mm drilling to reach the scala tympani because of ossification after meningitis. Full insertion was achieved in 11 patients; the other child received 18 electrodes. One patient had temporary facial nerve weakness; two others had wound edema and serous discharge that resolved with conservative management. In the longer term, one child experienced a single episode of acute otitis media; another had recurrent episodes of otitis media. Mean Listening Progress Profile scores increased from one to 42 and median Categories of Auditory Performance scores increased from 0 to five at two years postsurgery. Comparison with the scores in the two- to five-year group showed no significant differences. No significant tuning difficulties were experienced with all children. **CONCLUSIONS:** Cochlear implantation is feasible in children younger than two years without significant surgical complications or particular tuning difficulties. Functional results two years after implantation were as good as or better than those of children who underwent implantation between ages two and five years.

Cytokine gene polymorphism in recurrent acute otitis media. Joki Erkkilä-Veli-Pekka, Puhakka-Heikki, Hurme-Mikko. Department of Otorhinolaryngology, Head and Neck Surgery, Tampere University Hospital, PO Box 2000, FIN-33521 Tampere, Finland. vp.jokierkkila@nokianlaakariasema.fi. *Archives of Otolaryngology – Head and Neck Surgery* (2002) January, Vol. 128 (1), pp. 17–20. **BACKGROUND:** There is increasing evidence that a strong

genetic component is involved in the predisposition to recurrent acute otitis media (rAOM). Cytokines play a key role in the pathogenesis of otitis media. Constitutional polymorphisms in cytokine genes may lead to individual variations in cytokine secretion. **OBJECTIVE:** To elucidate the role of cytokine gene polymorphisms in rAOM. **SETTING:** University hospital. **PARTICIPANTS AND METHODS:** Blood samples for genetic analysis were obtained from 63 individuals with rAOM from 20 different families and from 400 healthy blood donors. The medical history of the rAOM group was based on medical records and interview data. We studied the polymorphisms of tumor necrosis factor alpha, interleukin (IL) 1 alpha, IL-1 beta, and IL-1 receptor antagonist genes. **RESULTS:** The distribution of cytokine alleles in the rAOM group did not differ significantly from that of the control group. However, in patients with rAOM without a history of allergic disorders, allele frequencies of IL-1 alpha-889 differed significantly from those of controls ($P=0.03$). **CONCLUSIONS:** There is no clear association between the polymorphism of studied cytokine genes and rAOM. However, the IL-1 alpha gene polymorphism may be associated with recurrent middle ear infections in a subgroup of patients without allergic disorders.

Vibration-induced shift of the subjective visual horizontal: a sign of unilateral vestibular deficit. Karlberg-Mikael, Aw-Swee, T., Halmagyi G. Michael, Black-Ross, A. Department of Neuro-otology, Royal Prince Alfred Hospital, Sydney, Australia. mikael.karlberg@onh.lu.se. *Archives of Otolaryngology – Head & Neck Surgery* (2002) January, Vol. 128 (1), pp. 21–7.

BACKGROUND: Vibrations to the head or neck excites vestibular and neck muscle spindle afferents. Can such vibrations improve the sensitivity of the subjective visual horizontal (SVH) test to chronic unilateral deficit of the vestibular system? **DESIGN:** Controlled experimental study. **SETTING:** Tertiary referral center. **PATIENTS AND CONTROLS:** Thirteen healthy subjects and 23 patients with chronic unilateral vestibular deficits after vestibular neurectomy or neurolabyrinthitis. Results of head-impulse test showed unilateral loss of function of all three semicircular canals in 14 patients and loss of anterior and lateral semicircular canals in nine patients. **INTERVENTION:** Unilateral vibration (92 Hz; 0.6 mm amplitude) applied to sternocleidomastoid muscle (SCM) or mastoid bone. **MAIN OUTCOME MEASURE:** Results of SVH test (in degrees). **RESULTS:** Without vibration, 13 of 23 patients and all healthy subjects had SVH of less than three degrees (sensitivity, 43 per cent; specificity, 100 per cent). During vibration to the ipsilesional SCM, SVH increased to greater than three degrees in 21 of 23 patients but in only one of 13 healthy subjects (sensitivity, 91 per cent; specificity, 92 per cent). The patient group had significantly greater SVH shifts to the ipsilesional side than did healthy subjects in response to SCM and mastoid bone vibration on either side. The SVH shift during vibration to the ipsilesional SCM was significantly greater than that during vibration to the contralesional muscle ($P0.001$) or to the mastoid bone on either side ($P0.01$). **CONCLUSIONS:** The sensitivity of the SVH test to chronic unilateral vestibular deficits can be improved by applying vibration to the SCM. The magnitude of vibratory SVH shift is related to the extent of unilateral deficit of the otolithic organs, vertical canals, or both.

Development and validation of the neck dissection impairment index: a quality of life measure. Taylor-Rodney, J., Chepeha-Judith, C., Teknos-Theodoros, N., Bradford-Carol, R., Sharma-Pramod, K., Terrell-Jeffrey, E., Hogikyan-Norman, D., Wolf-Gregory, T., Chepeha-Douglas, B. Department of Otolaryngology – Head and Neck Surgery, University of Michigan, Ann Arbor, MI 48109, USA. *Archives of Otolaryngology – Head and Neck Surgery* (2002) January, Vol. 128 (1), pp. 44–9.

OBJECTIVES: To validate a health-related quality-of-life (QOL) instrument for patients following neck dissection and to identify

the factors that affect QOL following neck dissection. **DESIGN:** Cross-sectional validation study. **SETTING:** The outpatient clinic of a tertiary care cancer center. **PATIENTS:** Convenience sample of 54 patients previously treated for head and neck cancer who underwent a selective neck dissection or modified radical neck dissection (64 total neck dissections). Patients had a minimum postoperative convalescence of 11 months. Thirty-two underwent accessory nerve-sparing modified radical neck dissection, and 32 underwent selective neck dissection. **MAIN OUTCOME MEASURE:** A 10-item, self-report instrument, the Neck Dissection Impairment Index (NDII), was developed and validated. Reliability was evaluated with test-retest correlation and internal consistency using the Cronbach alpha coefficient. Convergent validity was assessed using the 36-Item Short-Form Health Survey (SF-36) and the Constant Shoulder Scale, a shoulder function test. Multiple variable regression was used to determine variables that most affected QOL following neck dissection. **RESULTS:** The 10-item NDII test-retest correlation was 0.91 ($P < 0.001$) with an internal consistency Cronbach alpha coefficient of 0.95. The NDII correlated with the Constant Shoulder Scale ($r = 0.50$, $P < 0.001$) and with the SF-36 physical functioning ($r = 0.50$, $P < 0.001$) and role-physical functioning ($r = 0.60$, $P < 0.001$) domains. Using multiple variable regression, the variables that contributed most to QOL score were patient's age and weight, radiation treatment, and neck dissection type. **CONCLUSIONS:** The NDII is a valid, reliable instrument for assessing neck dissection impairment. Patient's age, weight, radiation treatment, and neck dissection type were important factors that affect QOL following neck dissection.

Tracheoesophageal speech in a developing world community. Fagan-Johannes, J., Lentin-Roslyn, Oyarzabal-Manuel, F., Isaacs-Sedick, Sellars-Sean, L. Department of Otolaryngology, University of Cape Town School of Medicine, Groote Schuur Hospital, Observatory, Cape Town 7925, South Africa. fagan@iafrica.com. *Archives of Otolaryngology – Head & Neck Surgery* (2002) January, Vol. 128 (1), pp. 50–3.

OBJECTIVES: To determine the tracheoesophageal speech results in a Third World medical practice; to examine the impact of socioeconomic status, literacy, and proximity to specialist services on tracheoesophageal speech; to assess whether these factors should affect patient selection for fistula speech; and to determine guidelines for voice prosthesis selection. **DESIGN:** Retrospective analysis. **SETTING:** Groote Schuur Hospital, Cape Town, South Africa, which serves a Third World community. **PATIENTS:** Ninety-seven consecutive patients who underwent total laryngectomy between January 1, 1996, and October 1, 1998. Patients who undergo total laryngectomy routinely have a primary tracheoesophageal fistula created for speech. **MAIN OUTCOME MEASURES:** Speech outcomes after total laryngectomy; tracheoesophageal speech in relation to social class, literacy, and proximity to specialist services; and experience with removable and indwelling valves. **RESULTS:** Fifty-nine (81 per cent) of 73 patients acquired useful speech. Speech outcome was not affected by employment status or proximity to specialist services. Although speech was affected good speech. Average device life of removable prostheses was 16 weeks (>four months in 35 per cent (64/183)). Indwelling prostheses had an average life of 28 weeks. **CONCLUSIONS:** Tracheoesophageal speech results in a Third World community equate with those in the Developed World. All patients who undergo laryngectomy and have adequate manual dexterity and cognitive function should be given a trial of fistula speech. Removable voice prostheses can successfully be used as indwelling prostheses.

Autoimmune inner ear diseases: steroid and cytotoxic drug therapy. Lasak, J. M., Sataloff, R. T., Hawkshaw, M., Carey, T. E., Lyons, K. M., Spiegel, J. R. Department of Otolaryngology, Ohio State University, Columbus, USA. *Ear, Nose and Throat Journal* (2001) November, Vol. 80 (11), pp. 808–11.

The goal of this study was to assess the effects of immunosuppressive therapy on hearing in patients with presumed autoimmune sensorineural hearing loss (AISONHL) and a Western blot assay positive for a 68 kD inner ear antigen. To achieve this objective, we conducted a retrospective review of 39 such patients who were treated with either a steroid alone or with a steroid followed by a cytotoxic agent. Pure-tone average (PTA) at 500 Hz, 1 kHz, 2 kHz, and 3 kHz, and speech discrimination scores (SDS) were used as objective measures of outcome. At the completion of

treatment, 23 of the 39 patients (59 per cent) exhibited a positive response to therapy. The steroid-only responders ($n = 6$) tended to demonstrate a greater improvement in PTA (14.8 vs. 4.5 dB), while the cytotoxic-agent responders ($n = 17$) had a significantly greater improvement in SDS (26.2 vs. 6.9 per cent; $P < 0.01$). We conclude that most patients with AISONHL benefit from immunosuppressive therapy and that cytotoxic medications appear to improve SDS, even in some patients who have not responded to corticosteroid therapy.

Vocal process granuloma. Hoffman, H. T., Overholt, E., Karnell, M., McCulloch, T. M. Department of Otolaryngology – Head and Neck Surgery, University of Iowa Hospitals and Clinics, 200 Hawkins Drive, Iowa City, Iowa 52242, USA. henry-hoffman@uiowa.edu. *Head and Neck* (2001) December, Vol. 23 (12), pp. 1061–74.

BACKGROUND: This review article reports the evolution of knowledge regarding the benign proliferations of the posterior glottis commonly termed 'vocal process granuloma'. **METHODS:** A comprehensive review of publications addressing lesions of the posterior glottis is affected to analyse the contemporary management of vocal process granuloma. **RESULTS:** Contemporary management emphasizes interventions to decrease irritation to the posterior glottis. Multiple causes of this irritation preclude use of a single management plan that will successfully address all cases. **CONCLUSIONS:** Management to diminish laryngopharyngeal reflux, as well as to correct vocally abusive behaviour, will appropriately address the majority of vocal process granuloma. Surgical removal is best reserved for cases when conservative management fails, when airway obstruction is a concern, or when a biopsy is needed to establish the diagnosis. Ancillary measures that may be beneficial in specific cases include the use of laryngeal botulinum neurotoxin injection.

Gout of the temporomandibular joint: pitfalls in diagnosis. Barthelemy, I., Karanas, Y., Sannajust, J. P., Emering, C., Mondie, J. M. Department of Oral and Maxillo-Facial Surgery, Facial Plastic Surgery, Clermont-Ferrand Cedex, France. isabarth@aol.com. *Journal of Cranio-maxillo-facial Surgery* (2001) October, Vol. 29 (5), pp. 307–10.

Gout is a frequent benign disease that rarely affects the temporomandibular joint (TMJ) alone. When it does, the disease is usually confined to the joint space and leads to pain and limitation of jaw opening (acute gout). The case described in this report is atypical in so far as it extended beyond the joint capsule into the pterygoid muscle and destroyed the head of the mandible, the temporal bone and the greater wing of the sphenoid bone. This clinical behaviour in combination with the radiographic appearance created the appearance of a benign but osteolytic lesion. The clinical, radiographic and biological features of gout in the TMJ are reviewed and treatment options are discussed.

Magnetic resonance imaging findings of internal derangement and effusion in patients with unilateral temporomandibular joint pain. Rudisch, A., Innerhofer, K., Bertram, S., Emshoff, R. Department of Magnetic Resonance Imaging and Radiology, University of Innsbruck, Austria. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontics* (2001) November, Vol. 92 (5), pp. 566–71.

OBJECTIVES: The purpose of this study was to investigate the relationship between the presence of temporomandibular joint (TMJ) pain and the magnetic resonance (MR) imaging findings of internal derangement (ID) and effusion. **STUDY DESIGN:** The study was comprised of 41 consecutive patients with TMJ pain. Criteria for including a patient were report of unilateral pain near the TMJ, with the presence of unilateral TMJ pain during palpation, function, and/or unassisted or assisted mandibular opening, and the absence of a specific clinical TMJ-related diagnosis of disk displacement with or without reduction. Bilateral sagittal and coronal MR images were obtained to establish the presence or absence of TMJ ID or effusion, or both. **RESULTS:** Comparison of the TMJ side-related data showed a significant relationship between the clinical finding of TMJ pain and the MR imaging diagnoses of TMJ ID ($P = 0.001$), and TMJ effusion ($P = 0.004$). Furthermore, there was a significant relationship between the MR imaging diagnosis of TMJ ID and TMJ effusion ($P = 0.000$). Use of the kappa statistic test indicated poor diagnostic agreement between the presence of TMJ pain and the

MR imaging diagnosis of TMJ ID ($\kappa = 0.34$); TMJ effusions ($\kappa = 0.32$), and TMJ ID and effusion ($\kappa = 0.27$). **CONCLUSIONS:** The study's findings suggest that although clinical pain is correlated with TMJ-related MR imaging findings, clinical pain in and of itself is not reliable for predicting the presence of TMJ ID or effusion, or both. Therefore, MR imaging appears to be a warranted and necessary supplement to the clinical findings.

Molecular typing of paired bacterial isolates from the adenoid and lateral wall of the nose in children undergoing adenoidectomy: implications in acute rhinosinusitis. Bernstein, J. M., Dryja, D., Murphy, T. F. Department of Otolaryngology, School of Medicine and Biomedical Sciences, State University of New York at Buffalo, NY, USA. jbernste@acsu.buffalo.edu. *Otolaryngology – Head and Neck Surgery* (2001) December, Vol. 125 (6), pp. 593–7.

OBJECTIVE: Recent studies have suggested that the origin of bacteria that enter the lateral wall of the nose and paranasal sinuses arise from the nasopharynx. The purpose of this study was to compare the molecular biological profiles of potential pathogens found in the nasopharynx and lateral wall of the nose concomitantly in children undergoing surgery for upper respiratory tract disease. **STUDY DESIGN AND SETTING:** Fifty-two children undergoing adenoidectomy for either tonsillectomy or adenoidectomy (hypertrophy) or otitis media with effusion were studied. Bacterial cultures were taken from the crypts of the adenoids and from the lateral wall of the nose under endoscopic control after sterilization of the vestibule and inferior turbinate. Routine cultures of these areas were performed in the bacteriology laboratory of the Children's Hospital of Buffalo. **RESULTS:** Bacterial pathogens were isolated from 79 per cent of adenoids and 46 per cent of lateral walls of the nose. Molecular typing of pairs of nontypable *Haemophilus influenzae*, *Streptococcus pneumoniae*, and *Moraxella catarrhalis* revealed that in 16 of 18 pairs (89 per cent) the identical strain was present in both sites simultaneously. **CONCLUSIONS:** These results support the concept that when potential bacterial pathogens that may cause acute bacterial rhinosinusitis are found concomitantly in the nasopharynx and lateral wall of the nose, they are usually identical.

Sepragel sinus (hylan B) as a postsurgical dressing for endoscopic sinus surgery. Kimmelman, C. P., Edelstein, D. R., Cheng, H. J. Department of Otolaryngology – Head and Neck Surgery, Manhattan Eye, Ear and Throat Hospital, 1421 Third Avenue, New York, NY 10021, USA. ckimmelman@aol.com. *Otolaryngology – Head and Neck Surgery* (2001) December, Vol. 125 (6), pp. 603–8.

OBJECTIVE: To assess the safety and efficacy of Sepragel sinus, a hylan B gel (cross-linked hyaluronic acid molecule), when used as a postoperative dressing after endoscopic sinus surgery as a facilitator of healing and a preventative for scarring and stenosis. **STUDY DESIGN:** Ten patients undergoing bilateral endoscopic ethmoidectomy in an outpatient specialty hospital operating room underwent complete filling of a randomly selected right or left ethmoidectomy cavity with Sepragel sinus. Outcome measures were synechia, middle meatal stenosis, mucosal status, mucosal regeneration, transparency of Sepragel sinus, and subjective pain and congestion. **RESULTS:** Sepragel sinus significantly improved all outcome measures by week two and remained statistically significant for reduction of synechia and stenosis. **CONCLUSION:** Sepragel sinus is useful as a space-occupying gel stent to separate sinus mucosal surfaces. The data strongly support the superiority of Sepragel sinus over no treatment in the control of postethmoidectomy synechia and middle meatal stenosis, as well as early improvement in mucosal healing and postoperative pain. **SIGNIFICANCE:** Because of its biocompatibility, lack of inflammatory response, transparency, and ability to fill any complex volume, Sepragel sinus offers distinct advantages over currently used stenting materials.

A new device for frontal sinus endoscopy: first clinical report. Iro, H., Zenk, J. Department of Otorhinolaryngology, Head and Neck Surgery, University of Erlangen-Nuremberg, Waldstrasse 1, D-91054, Erlangen, Germany. heinrich.iro@hno.med.uni-erlangen.de. *Otolaryngology – Head and Neck Surgery* (2001) December, Vol. 125 (6), pp. 613–6.

OBJECTIVE: Endoscopically or microscopically controlled paranasal sinus surgery currently represents the state of the art. For

anatomic reasons the ostium of the frontal sinus and the frontal sinus itself are difficult to observe. Flexible endoscopes are often difficult to implement and do not provide enough light intensity to visualize all parts of the frontal sinus. **MATERIALS AND METHODS:** A specially curved rigid endoscope with a working channel of 1.5 mm that allows passage into the frontal sinus has been developed to manage this problem. The system was used on 15 patients during paranasal sinus surgery to evaluate possible indications and its clinical usefulness. **RESULTS:** The endoscope could be introduced into the frontal sinus after an ethmoidectomy had been performed in all of the patients. The anatomy of the sinus could be visualized with sufficient light intensity in 14 patients. The shadowing of the frontal sinus seen in CT was not due to polyps of the mucosa of the frontal sinus in all cases, but rather due to secretion with otherwise normal mucosa. In the cases with polyps, it was necessary to irrigate with saline solution to prevent the buoyant polyps from collapsing over the endoscope. The following specific indications for this endoscopic version were established during this first test: intraoperative and postoperative control of the frontal sinus, clinical evaluation of tumor growth into the frontal sinus, biopsies within the frontal sinus, and evaluation of fractures. **CONCLUSION:** The new device provides further insight within the field.

Reconstruction of the ossicular chain with titanium implants. Dalchow, C. V., Gruen, D., Stupp, H. F. HNO Klinik, Dominikus Krankenhaus, Am Heerdtter Krankenhaus 2, 40549 Duesseldorf, Germany. cdalchow@mail.isis.de. *Otolaryngology – Head and Neck Surgery* (2001) December, Vol. 125 (6), pp. 628–30.

OBJECTIVES: Since 1994 more than 1300 titanium implants have been used to reconstruct the ossicular chain of the middle ear for chronic otitis media. Two different types of implants were used. First, a total and a partial implant of fixed length, available in numerous different lengths. And second, a total and partial implant that has an adjustable length. The implants are commercially available from two different companies. Patients were followed for a postoperative term from six to 72 months. **METHODS:** A wide variety of patients aged five to 82 years received a tympanoplasty type III. Those patients whose ossicular chain had been reconstructed with titanium implants since 1994 were evaluated. As implants from one company are fixed in length; implants of a second company are trimmable in length. All prostheses are lightweight and made of pure titanium, fitting most anatomical situations. **RESULTS:** Earlier results already showed a very low complication rate. Extrusions occurred only in cases of middle ear atelectasis with resorption of interposed cartilage (one per cent). No adverse reaction to the prostheses could be seen, even in histologic reviews. An average air-bone gap less than 4 kHz was achieved for 76 per cent of cases; 43 per cent of cases showed a calculated air-bone gap of less than 10 dB (A), only 10 per cent higher than 30 dB (A). **CONCLUSION:** All implants used offer the proven benefits of titanium, namely high biocompatibility and high stability at a very low complication rate with excellent hearing results for the patients. Titanium implants can highly be recommended to reconstruct the ossicular chain of the middle ear.

Surgery for pediatric subglottic stenosis: disease-specific outcomes. Hartnick, C. J., Hartley, B. E., Lacy, P. D., Liu, J., Willging, J. P., Myer, C. M. 3rd, Cotton, R. T. Department of Pediatric Otolaryngology, Children's Hospital Medical Center, Cincinnati, Ohio, USA. *The Annals of Otolaryngology, Rhinology and Laryngology* (2001) December, Vol. 110 (12), pp. 1109–13.

To set the foundation to develop a disease-based, operation-specific model to predict the outcome of pediatric airway reconstruction surgery, we performed a retrospective database review of children operated on at a single, tertiary-care children's hospital. Over the 12-year period 1988 to 2000, a total of 1,296 airway reconstruction procedures were performed. Out of these, charts were identified for 199 children who underwent laryngo-tracheal reconstruction for a sole diagnosis of subglottic stenosis. Children were excluded from the study if their disorder included supraglottic, glottic, or upper tracheal disease. The main outcome measures were Myer-Cotton grade-specific decannulation and extubation rates, including both operation-specific and overall results. There were 101 children who underwent double-stage laryngo-tracheal reconstruction. The operation-specific decannulation rates for Myer-Cotton grades 2, 3 and 4 were 85 per cent (18/

21), 37 per cent (23/61), and 50 per cent (seven/14) (χ^2 analysis, $P=0.0007$). The overall decannulation rates were 95 per cent (20/21), 74 per cent (45/61), and 86 per cent (12/14) (χ^2 analysis, $P=0.04$). There were 98 children who underwent single-storage laryngotracheal reconstruction. The operation-specific extubation rates for Myer-Cotton grades 2, 3 and 4 were 82 per cent (37/45), 79 per cent (34/43), and 67 per cent (two of three) (χ^2 analysis, $P=0.63$). The overall extubation rates were 100 per cent (45/45), 86 per cent (37/43), and 100 per cent (three of three) (χ^2 analysis, $P=0.03$). Logistic regression analysis showed no effect of age (less than or greater than two years of age) on operation-specific or overall outcome parameters. We conclude that laryngotracheal reconstruction for pediatric subglottic stenosis remains a challenging set of procedures in which multiple operations may be required to achieve eventual extubation or decannulation. Children with Myer-Cotton grade three or four disease continue to represent a significant challenge, and refinements of techniques are being examined to address this subset of children. Disease-based, operation-specific outcome statistics are the first step in the development of a meaningful predictive model.

Reversible lateralization of the paralysed vocal cord without tracheostomy. Lichtenberger, Gyoergy. Department of Otorhinolaryngology – Head and Neck Surgery, Szent Rokus Hospital and Institutions, Budapest, Hungary. *The Annals of Otolaryngology and Rhinology* (2002) January, Vol. 111 (1), pp. 21–6.

The initial management of bilateral adductor vocal cord paralysis is usually tracheostomy. It is proposed that a reversible endoscopic vocal cord lateral fixation would avoid this morbid procedure. The operation is performed by laryngoscopy utilizing the endoextralaryngeal suture technique of Lichtenberger. Two polypropylene sutures are looped over one of the paralysed vocal cords and brought out through the neck skin. A small incision is made, and the sutures are secured in the sternohyoid muscle. If movement of one or both vocal cords returns, the sutures are removed. Sixty-one of 63 cases were successful. In 53 cases, the airway became stable, without return of function. In eight cases, one or both of the vocal cords became mobile three to four months after the operation. The reversible endo-extralaryngeal lateralization of the vocal cord using the above suture technique ensures a stable airway immediately. This technique avoids the need for tracheostomy in cases of bilateral abductor vocal cord paralysis.

Virtual laryngotracheal endoscopy based on geometric surface modelling using spiral computed tomography data. Triglia, Jean-Michel, Nazarian Bruno, Sudre-Levillain-Isabelle, Marciano-Sandrine, Moulin-Guy, Giovanni Antoine. Department of Otolaryngology, La Timone University Hospital, Marseille, France. *The Annals of Otolaryngology, Rhinology and Laryngology* (2002) January, Vol. 111 (1), pp. 36–43.

This prospective study describes the clinical utility of virtual endoscopy based on geometric surface modelling of the laryngotracheal lumen. Eighteen children with dyspnoea related to either

subglottic angioma ($n=5$) or laryngotracheal stenosis ($n=13$) were included. All patients underwent video-recorded operative endoscopy, spiral computed tomography, and three-dimensional reconstruction of the laryngotracheal lumen. Modeling was achieved by contour detection on spiral computed tomographic images and reconstruction using a geometric shape-recognition algorithm. The generated surface was used for diagnosis and measurement using interactive and automatic tools. Findings of virtual endoscopy and operative endoscopy were compared. Virtual endoscopy confirmed narrowing of the airway in all cases. In nine cases, high-grade stenosis prevented complete operative endoscopy, but virtual endoscopy allowed accurate assessment and measurement of the stenosis. The findings of operative and virtual endoscopy were concordant in nine cases. We conclude that surface modeling provides valuable information for preoperative evaluation of laryngotracheal narrowing. The ability to assess extraluminal anatomy provides a clearer picture of overall disease involvement. In the future, virtual endoscopy will probably be used in conjunction with operative endoscopy for therapeutic decision-making. Noninvasive virtual endoscopy could become an alternative to traditional endoscopy under general anesthesia for therapeutic follow-up.

Local anesthesia with EMLA cream for maxillary sinus puncture. Joki Erkkilae-Veli Pekka, Penttilae Matti, Kaeeriaainen-Janne, Rautiainen Markus. Department of Otorhinolaryngology – Head and Neck Surgery, Tampere University Hospital, Finland. *The Annals of Otolaryngology, Rhinology and Laryngology* (2002) January, Vol. 111 (1), pp. 80–2.

Maxillary sinus puncture is traditionally carried out through the lateral wall of the inferior nasal meatus under local anesthesia. One problem with it is that the insertion of a cotton-tipped applicator soaked in local anesthetic is painful. Patients also dislike waiting for the anaesthetic effect with the metallic applicators in the nose. In this study, we present a new, well-tolerated method of topical anaesthesia for maxillary sinus puncture via the inferior meatus of the nose. Twenty adult patients with maxillary sinus infection who were undergoing bilateral maxillary sinus puncture were studied. One side of each patient's nose was anaesthetized with a cotton-tipped applicator moistened with a lidocaine-adrenaline solution (LA), and the other side was anaesthetized with EMLA cream instilled with a suction needle and syringe; the sides were chosen randomly. The mean 'application of anaesthesia' pain score on a 100 mm visual analog scale was 39.2 for the LA side and 9.1 for the EMLA side ($P<0.01$). The anesthesia required for puncture was reached more quickly on the EMLA side than one on the LA side ($P=0.02$). The mean puncture pain score was 25.1 with LA and 8.6 with EMLA ($P=0.01$). Fourteen patients out of the 20 (70 per cent) found EMLA more tolerable, three patients (15 per cent) found no difference and three patients (15 per cent) preferred LA ($P<0.01$). We conclude that EMLA is better-tolerated and quicker-acting than LA for local anaesthesia in maxillary sinus puncture.