

Abstract selection

The normal pediatric larynx on CT and MR. Hudgins, P. A., Siegel, J., Jacobs, I., Abramowsky, C. R. Department of Radiology, Emory University School of Medicine, Atlanta, Ga 30322, USA. *American Journal of Neuroradiology* (1997) February, Vol. 18 (2), pp. 239–45.

PURPOSE: To determine the MR and CT appearance of the normal pediatric larynx. **METHODS:** Fifteen CT scans and 15 MR examinations of children with normal larynges and airways were reviewed retrospectively. Characteristics that were noted included the level of the hyoid bone, calcification and signal intensity within separate laryngeal components, amount of paraglottic fat, anteroposterior airway diameters, and airway contours. Two cadaveric larynges were imaged by CT and MR and were then sectioned at corresponding levels and section thicknesses. **RESULTS:** The larynx is higher in children than in adults, with the hyoid bone found at the C2-3 level in the youngest children (newborn to two years). The subglottic airway was narrowest in the youngest children. The hyoid bone was the only laryngeal structure ossified in any of the children. A thin line of high density was seen in the expected location of the thyroid cartilage in some children. The featureless circumferential soft tissue seen around the airway represented the uncalcified laryngeal cartilaginous structures. This was confirmed on gross sectioning of cadaveric larynges. The supraglottic airway contour was triangular or oval, the glottis was shaped like a teardrop, and the subglottic contour was oval. Contours were confirmed on histologic examination of necropsy specimens. **CONCLUSIONS:** This preliminary study suggests that the pediatric larynx differs from the adult larynx with respect to size, position, consistency, and shape, and these differences are reflected on CT and MR studies. Author.

Tinnitus information: a study by questionnaire. Axelsson, A., Nilsson, S., Coles, R. Department of Audiology, Sahlgrenska University Hospital, Goteberg, Sweden. *Audiology* (1995) November-December, Vol. 34 (6), pp. 301–10.

The aim of the present study was to improve the information for patients with tinnitus. The investigation consists of three parts: a pilot study where 24 slightly informed tinnitus patients as well as 17 well-informed tinnitus patients and nine audiological professionals suggested contents for a tinnitus information pamphlet. The second part consisted of scoring of the 74 most common suggestions by 36 of the original 50 people. The answers were graded according to importance. Three available tinnitus information folders from Sweden, Germany and the USA were also studied and taken into account in preparing recommendations on content and size for a tinnitus information pamphlet. This should probably not exceed 2,500 words, and 35 items of information. Author.

A randomized double-blind placebo controlled study of azelastine nasal spray in children with perennial rhinitis. Herman, D., Garay, R., Le Gal, M. Sce. Medecine-Allergologie, Hopital Bichat Claude Bernard, Paris, France. *International Journal of Pediatric Otorhinolaryngology* (1997) February 14, Vol. 39 (1), pp. 1–8.

One hundred and twenty five children (median age 8.71 years) suffering from perennial allergic rhinitis were treated in a randomized, double-blind, parallel group study comparing azelastine nasal spray 0.14 mg/nostril twice daily (0.56 mg/day) and placebo nasal spray. Medication was given for a periods of six weeks which followed a two week placebo washout period in all patients. Subjects were aged between five and 12 and were skin prick positive to either house dust mites and/or cat or dog dander. Concomitant anti allergic treatment was not permitted during the study. Severity of rhinitis symptoms was scored daily by the child or his/her parents on a diary card using a visual analogue scale (VAS) for each evaluated symptom: 0, absent-100, could not be worse. Mean weekly scores were calculated. Symptoms evaluated were: sneezing, nasal blockage, nasal itch and rhinorrhea. In addition, at each clinic visit the investigator evaluated symptoms

using a verbal score of 0, no symptom – 3, severe. Compared to the baseline, for each of the six study weeks, the reduction in the VAS scores for all four symptoms was statistically greater for the azelastine group compared to the placebo group. The investigator's assessment at clinic visits bore out these results. Both azelastine nasal spray and placebo were well tolerated, no serious adverse events were reported. During the treatment phase of the study a total of 36 adverse events were reported by 25 patients (azelastine 10, placebo 15). The most frequently occurring events were pharyngitis (azelastine 5, placebo 3), cough (azelastine 3, placebo 1) and bronchitis (azelastine 1, placebo 3). In conclusion, azelastine has been shown to be effective in the treatment of perennial rhinitis in children aged five to 12 years and to be superior to placebo in the relief of all symptoms assessed, namely sneezing, nasal blockage, nasal itch and rhinorrhea. Author.

The paranasal sinuses in CT-imaging: development from birth to age 25. Spaeth, J., Krugelstein, U., Schlondorff, G. Department of Otorhinolaryngology Plastic Head and Neck Surgery (HNO), University Hospital, Aachen, Germany. *International Journal of Pediatric Otorhinolaryngology* (1997) February 14, Vol. 39 (1), pp. 25–40.

Available data about the size of the different sinuses to date are derived from anatomical or radiological studies. In order to verify or possibly correct the findings of other authors we evaluated the cranial computed tomography (CT)-images of more than 5,600 patients. We measured the sex-linked and age-dependent width and length of the four sinuses for both sides in axial sections. For the first time we have a clear picture of the development of the paranasal sinuses for both sexes from birth until the age of 25 years. Our results confirm general ideas concerning the size of the sinuses. Moreover they provide new details, especially about the first occurrence and the course of development in different stages since we found each sinus already present in 1.5 per cent (frontal sinus) to 94 per cent (ethmoid cells) of the newborn of both sexes. Finally, we can state that the periods of expansion are equal in both sexes (ethmoid cells) or last up to two or three years longer (frontal sinus) in male patients. In agreement the sinuses of both sexes differ between 5.4 per cent (sphenoid sinus) and 17.1 per cent (frontal sinus) in definitive size with statistically significant differences in later ages. The data about sphenoid sinuses deserve special attention since they show a large variability in size (up to 214 per cent in one direction) as well as in shape. Author.

Neonatal rhinitis. Nathan, C. A., Seid, A. B. Department of Otolaryngology, Head and Neck Surgery, Louisiana State University Medical Center, Shreveport 71130, USA. *International Journal of Pediatric Otorhinolaryngology* (1997) February 14, Vol. 39 (1), pp. 59–65.

Neonatal rhinitis as a distinct disease entity has not been well-studied. The recognition and treatment of this condition is important since neonates are obligate nasal breathers, and mismanagement of this entity can result in poor feeding or even death from respiratory distress. We undertook a retrospective analysis of 20 patients seen at the Children's Hospital of San Diego over the period 1990–1991. Eighteen patients developed neonatal rhinitis in the months of August to January and only two between February and July. Clinical presentation and an effective management algorithm are discussed. Early recognition on the basis of clinical features followed by a two-step therapeutic trial consisting of conservative therapy and corticosteroid drops are advocated. Based on the above findings we have defined neonatal rhinitis as mucoid rhinorrhea with nasal mucosal edema in the afebrile newborn that results in stertor, poor feeding and respiratory distress which responds promptly to decadron 0.1 per cent drops within a week. We recommend reserving diagnostic procedures for complicated cases that do not respond to the proposed regimen. Author.

Discoordinate pharyngolaryngomalacia. Froehlich, P., Seid, A. B., Denoyelle, F., Pransky, S. M., Kearns, D. B., Garabedian, E. N., Morgon, A. Departement d'Oto-Rhino-Laryngologie et de Chirurgie Cervico-Faciale, Hopital E. Herriot, Lyon, France. *International Journal of Pediatric Otorhinolaryngology* (1997) February 14, Vol. 39 (1), pp. 9–18.

In cases of severe laryngomalacia, laser division of the aryepiglottic folds (AEFs) or endoscopic supraglottoplasty may be an ineffective solution. Failure of this technique is rare and the reasons for failure are not well established. The purpose of this study was to describe those cases of laryngomalacia in which endoscopic treatment did not reverse the clinical situation. We introduce the concept of discoordinate pharyngolaryngomalacia (DPLM). DPLM was defined as severe laryngomalacia with complete supraglottic collapse during inspiration, without shortened AEFs or redundant mucosa, and with associated pharyngomalacia. Twenty-seven of 82 children with severe laryngomalacia presented a DPLM. Endoscopic treatment was performed in 16 children and the surgical procedure was inadequate to reverse the clinical problem in these patients. In 10 children correction of additional sites of obstruction was required (uvulopharyngopalatoplasty, surgery of choanal atresia, aortopexy). Tracheostomy was necessary in 13 children. Bi-level positive airway pressure (BiPAP) was used successfully in two children and tracheotomy was avoided. Treatment still needs to be better defined. Author.

Concomitant pilocarpine during head and neck irradiation is associated with decreased posttreatment xerostomia. Zimmerman, R. P., Mark, R. J., Tran, L. M., Juillard, G. F. Department of Radiation, Oncology, UCLA School of Medicine, Los Angeles, CA 90095, USA. *International Journal of Radiation, Oncology, Biology and Physiology* (1997) February 1, Vol. 37 (3), pp. 571–5.

PURPOSE: To retrospectively compare subjective postirradiation xerostomia scores of patients who received concomitant oral pilocarpine during radiotherapy for head and neck cancer and three months thereafter with those of similar cohorts who did not receive pilocarpine. **METHODS AND METHODS:** Subjective xerostomia was assessed using a visual analog scale xerostomia questionnaire that measured oral dryness, oral comfort, difficulty with sleep, speech, and eating. The concomitant pilocarpine group had both parotid glands in the initial field treated to at least 45 Gy and received 5 mg pilocarpine hydrochloride four times per day (q.i.d.) beginning on the first day of radiotherapy and continuing for three months after completion of radiation. The control cohort had also received at least 45 Gy to both parotid glands and had not received pilocarpine at the time of evaluation. Scores on the visual analog scale were averaged and compared using the Student's t-test. **RESULTS:** Seventeen patients who received concomitant pilocarpine during head and neck irradiation and 18 patients who had not been treated with pilocarpine were available for follow-up. The mean intervals between completion of radiation and evaluation of xerostomia were 17 months and 16 months, respectively. Only one of the pilocarpine-treated patients was still taking pilocarpine at the time of evaluation. For each of the individual components of xerostomia scored on the visual analog scale, as well as the composite of all components, the group that had received oral pilocarpine during radiation had significantly less xerostomia ($p < 0.01$ for each). **CONCLUSIONS:** The use of 5 mg oral pilocarpine q.i.d. during radiotherapy for head and neck cancer and three months thereafter was associated with significantly less subjective xerostomia than that reported by a similar cohort of patients who had not received pilocarpine. The continued use of pilocarpine does not appear to be necessary to maintain this benefit in most patients. Author.

The effect of the evanescent wave upon acoustic measurements in the human ear canal. Brass, D., Locke, A. Institute of Laryngology and Otology, London, England. *Journal of the Acoustical Society of America* (1997) April, Vol. 101 (4), pp. 2164–75.

When making acoustic measurements in a human ear canal, it is often necessary to monitor the output of a sound source with a microphone positioned within a few millimeters of that sound source. This microphone will not only measure the pressure due to the propagated acoustic wave, which we wish to measure, but also the pressure due to the evanescent wave. The pressure due to the evanescent wave can be viewed as a source of error in the measurement of the propagating acoustic wave. This paper

attempts to quantify the magnitude of this error. Theoretical predictions are made of the relative level of the evanescent sound pressure in a number of source and microphone arrangements applicable to ear canal measurements. It is shown that these theoretical predictions represent an upper limit of evanescent sound pressure that can be measured experimentally. The maximum measurement error due to the presence of the evanescent wave in human ear canals below 10 kHz is predicted to be 3 dB in adults and 1.3 dB in one month old infants, when the loudspeaker and microphone ports are spaced more than 2 mm apart. Author.

Acoustic interactions of the voice source with the lower vocal tract. Titze, I. R., Story, B. H. Department of Speech Pathology and Audiology, University of Iowa, Iowa City 52242–1012, USA. *Journal of the Acoustical Society of America* (1997) April, Vol. 101 (4), pp. 2234–43.

The linear source-filter theory of speech production assumes that vocal fold vibration is independent of the vocal tract. The justification is that the glottis often behaves as a high-impedance (constant flow) source. Recent imaging of the vocal tract has demonstrated, however, that the epilarynx tube is quite narrow, making the input impedance to the vocal tract comparable to the glottal impedance. Strong interactions can exist, therefore. In particular, the inertance of the vocal tract facilitates vocal fold vibration by lowering the oscillation threshold pressure. This has a significant impact on singing. Not only does the epilarynx tube produce the desirable singer's formant (vocal ring), but it acts like the mouthpiece of a trumpet to shape the flow and influence the mode of vibration. Effects of the piriform sinuses, pharynx expansion, and nasal coupling are also discussed. Author.

Pendred syndrome: evidence for genetic homogeneity and further refinement of linkage. Gausden, E., Coyle, B., Armour, J. A., Coffey, R., Grossman, A., Fraser, G. R., Winter, R. M., Pembrey, M. E., Kendall-Taylor, P., Stephens, D., Luxon, L. M., Phelps, P. D., Reardon, W., Trembath, R. Department of Genetics, University of Leicester, UK. *Journal of Medical Genetics* (1997) February, Vol. 34 (2), pp. 126–9.

Pendred syndrome is the association between congenital sensorineural deafness and goitre. The disorder is characterized by the incomplete discharge of radioiodide from a primed thyroid following perchlorate challenge. However, the molecular basis of the association between hearing loss and a defect in organification of iodide remains unclear. Pendred syndrome is inherited as an autosomal recessive trait and has recently been mapped to 7q31 coincident with the non-syndromic deafness locus DFNB4. To define the critical linkage interval for Pendred syndrome we have studied five kindreds, each with members affected by Pendred syndrome. All families support linkage to the chromosome seven region, defined by the microsatellite markers D7S501–D7S523. Detailed haplotype analysis refines the Pendred syndrome linkage interval to a region flanked by the marker loci D7S501 and D7S525, separated by a genetic distance estimated to be 2.5 cM. As potential candidate genes have as yet not been mapped to this interval, these data will contribute to a positional cloning approach for the identification of the Pendred syndrome gene. Author.

Cricothyrotomy: the anatomical basis. Bennett, J. D. C., Guha, S. C., Sankar, A. B. Department of Anatomy and Neurosciences, University of Texas Medical Branch at Galveston, USA. *Journal of the Royal College of Surgery Edinburgh* (1996) February, Vol. 41 (1), pp. 57–60.

Cricothyrotomy is an important surgical technique. We studied the anatomy of the cricothyroid membrane in 13 adult fresh cadavers preserved at 45 degrees F and examined at 70 degrees F. The working dimensions of the cricothyroid membrane were measured for emergency cricothyrotomy and placement of an airway tube. The vertical measurement ranged from 8–19 mm (mean $13.69 \pm$ SE 0.96 mm) and the maximal width between the cricothyroid muscles ranged between nine and 19 mm (mean $12.38 \pm$ SE 0.91 mm). The distance from the upper limit of the cricothyroid membrane to the vocal cord was $9.78 \pm$ SE 0.52 mm. Eight subjects (62 per cent) had an artery delineated transversely across the cricothyroid membrane. Two subjects (15 per cent) had sclerosis of the cricothyroid joint. To promote the safe use of cricothyrotomy, the anatomy of the cricothyroid membrane is defined and clinically relevant data are presented. Author.

Hearing loss and herpes simplex. Al Muhaimeed, H., Zakzouk, S. M. Department of ORL, King Abdul Aziz University Hospital, Riyadh, KSA. *Journal of Tropical Pediatrics* (1997) February, Vol. 43 (1), pp. 20–4.

A survey to identify the aetiology of hearing impairment among Saudi children was carried out. Children were divided into two groups according to presence or absence of laboratory evidence of herpes simplex virus infection 'at risk' and 'not at risk'. Serological tests for herpes simplex virus infection were performed on 1,054 children. We found positive IgM antibody against herpes simplex virus, type 1 (HSV1) in the blood of 82 of the 1,054 children (eight per cent), and positive IgM antibody against herpes simplex virus type 2 (HSV2) in eight of the 1,054 children (0.8 per cent) ages ranged between 12 months and 14 years). Forty-six of the 82 infected children (56 per cent) with HSV1 were found to have bilateral sensorineural hearing loss (16 to 26 children of the at risk group and 30 of 56 from the 'not at risk' group). Only one case of the eight infected children with HSV2 was found to have bilateral sensorineural hearing loss of moderate degree. This case was in the 'not at risk' group. Hearing impairment was bilateral in all 46 cases, profound in seven, moderate to severe in 23 and mild in 16. Known causes of hearing impairment were excluded together with hearing impairment due to multiple TORCH agents. The high prevalence of hearing impairment among children due to herpes simplex virus infection is described. Author.

Balloon dilation of congenital and acquired stenosis of the trachea and bronchi. Jaffe, R. B. *Primary Children's Medical Center, Pediatric Medical Imaging Department, Salt Lake City, UT 84113, USA. Radiology* (1997) May, Vol. 203 (2), pp. 405–9.

PURPOSE: To document the results of balloon dilation of the trachea and bronchi in infants and children with congenital and acquired stenosis. **MATERIALS AND METHODS:** Balloon dilation of congenital and acquired tracheal and bronchial stenosis was performed in six patients aged five weeks to two years eight months (mean, 12.5 months). Bronchography with nonionic water-soluble contrast medium was performed initially through an endotracheal or tracheostomy tube with the patient sedated or under general anaesthesia. Balloon size (two to eight mm) was determined on the basis of diameter of the airway lumen distal to the stenosis measured at bronchoscopy. Twenty-three incremental balloon dilation procedures were performed in these six patients at time intervals from three days to two years. Usually, three balloon insufflations were performed for 20–45 seconds at four to six atm during each procedure. **RESULTS:** Symptomatic improvement or increased lumen diameter occurred in four of six patients after balloon dilation. No improvement was seen in two patients: One had unrecognized vascular compression of the proximal left bronchus and distal trachea, and the other, of the left upper lobe bronchus. There were no complications. **CONCLUSION:** Balloon dilation was a safe and effective palliative procedure for treatment of congenital and acquired stenosis of the trachea and bronchi. Symptomatic improvement and increased lumen diameter occurred but may be temporary. Performance of serial dilation procedures was necessary to effect a long-term cure. Author.

Activation of auditory cortex during silent lipreading. Calvert, G. A., Bullmore, E. T., Brammer, M. J., Campbell, R., Williams, S. C., McGuire, P. K., Woodruff, P. W., Iversen, S. D., David, A. S. Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK. gemma.calvert@psychiatry.ox.ac.uk. *Science* (1997) April 25, Vol. 276 (5312), pp. 593–6.

Watching a speaker's lips during face-to-face conversation (lip-reading) markedly improves speech perception, particularly in noisy conditions. With functional magnetic resonance imaging it was found that these linguistic visual cues are sufficient to activate auditory cortex in normal hearing individuals in the absence of auditory speech sounds. Two further experiments suggest that these auditory cortical areas are not engaged when an individual is viewing nonlinguistic facial movements but appear to be activated by silent meaningless speechlike movements (pseudospeech). This supports psycholinguistic evidence that seen speech influences the perception of heard speech at a prelexical stage. Author.

The normal anterior commissure of the glottis. Kallmes, D. F., Phillips, C. D. Department of Radiology, University of Virginia Health Sciences Center, Charlottesville 22908, USA. *American Journal of Roentgenology* (1997) May, Vol. 168 (5), pp. 1317–9.

OBJECTIVE: We characterized the normal width of the anterior commissure of the glottis by measuring its dimensions on CT scans obtained in patients who had no laryngeal disorders. **SUBJECTS AND METHODS:** CT scans of patients referred for cervical CT myelography were prospectively reviewed by a single board-certified radiologist. Axial images through the anterior commissure (localized by vocal process of the arytenoid cartilage, the vocal muscle, or both) were magnified on the viewing console of the CT scanner. Window and level were chosen to simulate our routine settings for CT scans of the neck. Anteroposterior width of the anterior commissure was measured using an electronic ruler with 1 mm marks. **RESULTS:** Sixty-five patients were prospectively evaluated. Nine patients were excluded because of substantial motion artifact, and another 18 were excluded because CT images did not include the entire larynx. Thus, the final study group included 38 patients. The average width of the anterior commissure was 1.02 ± 0.56 mm. The width was less than or equal to 1.1 mm in 22 (58 per cent) of 38 patients. The width was less than or equal to 1.7 mm in 35 (92 per cent) of 38 patients. Forty-two per cent (16 of 38 patients) had anterior commissures wider than 1.0 mm. The maximum width of 2.2 mm was seen in only one patient. **CONCLUSION:** The mean width of the anterior commissure was approximately 1.0 mm. However, 42 per cent of patients had anterior commissures wider than 1.0 mm. In our series, using an upper limit of 1.6 mm as a normal measurement for the anterior commissure would have included 92 per cent of patients, and an upper limit of 2.1 mm would have encompassed the mean plus two SDs. Author.

Sedation in allergic rhinitis is caused by the condition and not by antihistamine treatment. Spaeth, J., Klimek, L., Mosges, R. Department of Otorhinolaryngology, Plastic Head and Neck Surgery, Medical Faculty, Technical University of Aachen, Germany. *Allergy* (1996) December, Vol. 51 (12), pp. 893–906.

Sedation is regarded as a common side-effect of most H1-antihistamines. This view must be accepted, yet can hardly be assessed under treatment of allergic disorders. Since central sedative potency is hard to evaluate, different methods of measurement have been introduced in the four phases of clinical investigation. While tests of high complexity in early trials can detect true central effects, they seem to have the disadvantage of not taking into consideration the important interactions of drugs with the disorder. Therefore, we used a visual analog scale (VAS) as an instrument to demonstrate sedative effects in five clinical studies carried out between 1989 and 1994 with a total number of 1,070 patients. Thereby, we could assess the result of the different components of the central interaction. In 1989, in a double-blind, placebo-controlled trial, we could show that the vigilance of patients suffering from seasonal allergic rhinitis increased significantly more under treatment with an antihistamine (mizolastine) than under placebo. From 1992 until 1994, we compared azelastine nasal spray either by the double-dummy technique with oral antihistamines (cetirizine, loratadine, and astemizole) or by the double-dummy or placebo-controlled design with monotherapy or combined therapy with azelastine tablets. A marked or statistically significant improvement of vigilance was found for all compounds (loratadine: $p < 0.0001$; cetirizine: $p < 0.0254$; and azelastine nasal spray: $p < 0.1409$ to $p < 0.0001$). Even when taking azelastine as oral application, patients, in spite of the warning, reported a similar increase in vigilance ($p < 0.2628$ to $p < 0.0001$). Finally, we assessed the range of physiologic vigilance using the same VAS in healthy volunteers. In conclusion, we could prove that in all trials the baseline values of vigilance of untreated symptomatic patients were far below physiologic condition and improved under treatment to the upper range of healthy persons. Therefore, any sedative properties of modern H1-antihistamines should not limit their therapeutic use, since the truly threatening sedation results from the disorder itself. Author.

Nasal cytology in rhinitis children: comparison between brushing and blowing the nose. Jean, R., Delacourt, C., Rufin, P., Pfister, A., Waernessyckle, S., de Blic, J., Scheinmann, P. Laboratoire d'Exploration Fonctionnelle Respiratoire de l'Enfant, Groupe Hospitalier Necker-Enfants Malades, Paris, France. *Allergy* (1996) December, Vol. 51 (12), pp. 932-4.

Allergic rhinitis is a common disease in childhood, but nasal cytology is rarely used by pediatricians. We compared two techniques of cell sampling, brushing and blowing the nose, among 77 children suffering from chronic rhinitis, of whom 59 were allergic. Staining by the May-Grunwald-Giemsa method enabled the evaluation of the density of cells and especially differential counting of the inflammatory cells. Staining by the Luna method was used as a control for the eosinophils. For the eosinophil count, we found a strong correlation between the two methods of collecting the nasal secretions ($r=0.96$). Because blowing the nose is painless and easy to perform, it is more appropriate than brushing in routine use for the diagnosis of allergic rhinitis in children and in nasal challenge with allergens. Author.

Long-term safety and efficacy of triamcinolone acetonide aqueous nasal spray for the treatment of perennial allergic rhinitis. Koepke, J. W., Beaucher, W. N., Kobayashi, R. H., Ransom, J. H., Rosen, J. P., Feiss, G., Furst, J. A., Simpson, B., Smith, J. A. Allergy Respiratory Institute, Highland Ranch, Colorado, USA. *Allergy Asthma Proceedings* (1997) January-February, Vol. 18 (1), pp. 33-7.

This 12-month, multicenter, open-label study to assess the long-term safety and efficacy of triamcinolone acetonide (TAA) aqueous nasal spray for perennial allergic rhinitis (PAR) symptom relief was a continuation of a four-week, double-blind study. Patients who received TAA Aqueous (220 micrograms/day) during the four-week, double-blind study continued with the same treatment for the open label study; those randomized to placebo during the four-week, double-blind study received TAA Aqueous (220 micrograms/day) for the open-label study. Dose reduction to 110 micrograms/day was allowed if it was felt that symptom relief would be maintained. Safety was assessed by daily diary entries and clinical laboratory results. Long-term efficacy was assessed by visual analog scale (VAS). Of the 172 patients who began the open-label study, 94.2 per cent completed three months of treatment, 83.6 per cent completed six months, and 62 per cent completed 12 months. PAR symptom relief improved progressively throughout the study. Adverse events were generally mild or moderate and consistent with long-term use and winter symptoms. The most common adverse events were pharyngitis (32 per cent of patients), rhinitis (28.5 per cent), headache (22.1 per cent), and epistaxis (18 per cent). Adverse events related to the local effects of the study medication were similar to those observed in long-term studies with TAA aerosol. The aqueous nasal spray formulation of triamcinolone acetonide was well tolerated and continued to relieve nasal symptoms with long-term use in adolescent and adult patients with PAR. Author.

Sinonasal cancer and occupation. Results from the reanalysis of 12 case-control studies. Leclerc, A., Luce, D., Demers, P. A., Boffetta, P., Kogevinas, M., Belli, S., Bolm-Audorff, U., Brinton, L. A., Colin, D., Comba, P., Gerin, M., Hardell, L., Hayes, R. B., Magnani, C., Merler, E., Morcet, J. F., Preston-Martin, S., Vaughan, T. L., Zheng, W. INSERM, U88, Paris, France. *American Journal of Industrial Medicine* (1997) February, Vol. 31 (2), pp. 153-65.

A pooled reanalysis of 12 case-control studies on sinonasal cancer and occupation from seven countries was conducted in order to study associations with occupations other than wood- and leather-related occupations. The pooled data set included a total of 930 cases (680 men and 250 women) and 3,136 controls (2,349 men and 787 women). All the studies included a detailed occupational history for cases and controls. Each job was coded using the same classifications for occupation and industry. Two approaches were used in the analysis: systematic analysis of occupations; a priori analysis using a preestablished list of occupations and industries. The results confirmed associations observed in several studies not included in this analysis. For agricultural workers, significant excesses were observed for squamous cell carcinoma among women (OR = 1.69) and men (OR = 3.72 for ten years or more of employment as an orchard worker), and adenocarcinomas among

men (OR = 2.98 for ten years or more of employment). Associations with textile occupations were observed for adenocarcinoma among women (OR = 2.60) and squamous cell carcinoma among men (OR = 5.09 for fiber preparers, 3.01 for bleachers). Elevated risks for both histologic types were observed among men employed in food manufacturing (OR = 3.25, adenocarcinoma), or as food preservers (OR = 13.9, squamous cell carcinoma), and among men employed as cooks (OR = 1.99, squamous cell carcinoma). A positive association with squamous cell carcinoma was observed for male transport equipment operators (OR = 1.21), and also with adenocarcinoma for male motor-vehicle drivers (OR = 2.50). A number of other associations were observed in the systematic analysis. Author.

Identifying comparison groups for evaluating occupational hearing loss: a statistical assessment of 22 industrial populations. Adera, T., Gaydos, J. C. Virginia Commonwealth University, Medical College of Virginia, Richmond 23298-0212, USA. *American Journal of Industrial Medicine* (1997) February, Vol. 31 (2), pp. 243-9.

Finding appropriate comparison groups to study occupational hearing loss has been difficult. Recently, however, the National Institute for Occupational Safety and Health sponsored the complication of potentially useful data from 22 diverse industrial companies in the USA and Canada. We conducted a statistical evaluation to determine which of the 22 populations might be suited as comparison groups in future studies of workers exposed to hazardous noise. In a Cox Proportional Hazards model that included age and sex, the relative risk of developing hearing loss in each company was estimated at two, five and ten years of follow-up. We ranked the companies based on their relative risks, and rated them on a five-point scale from 'excellent' to 'poor' to indicate their suitability as comparison groups. The risk profiles developed and other variables described in this study will assist researchers in selecting appropriate comparison groups for evaluating occupational hearing loss. Author.

Fibular free flap reconstruction of the 'true' lateral mandibular defect. Anthony, J. P., Foster, R. D., Kaplan, M. J., Singer, M. I., Pogrel, M. A. Division of Plastic and Reconstructive Surgery, University of California, San Francisco 94115-1632, USA. *Annals of Plastic Surgery* (1997) February, Vol. 38 (2), pp. 137-46.

The purpose of this study was to determine the role of the fibular free flap in reconstructing lateral segmental defects of the mandible. Over the past 5½ years, 17 consecutive patients underwent reconstruction of their lateral mandible with the fibular free flap. Patients included 12 men and five women, the mean age was 54 years (range, 29-76 years), and the mean length of the mandibular defect was 6.3 cm (range, 2.5-9 cm). The majority of patients with tumours (54 per cent) were treated for recurrence and 92 per cent received radiation to the operative field. The mean operative time to perform the microsurgery and bone plating was four hours. Postoperative morbidity occurred in three patients (18 per cent) (plate fracture, malocclusion, orocutaneous fistula). Five patients (29 per cent) required leg donor site skin grafting. Donor site morbidity included a minor cellulitis, a transient neuropraxia, and one case of leg swelling. None required additional surgery for donor complications. Thus far, 71 per cent of the patients have received dental rehabilitation and 35 per cent had osseointegrated implants placed in their bone flap. Eighty-two per cent of the patients achieved both good or excellent aesthetic and functional results. Sixteen patients (94 per cent) tolerate at least a soft diet and 65 per cent are on a regular diet. Five patients developed tumour recurrence an average of nine months postoperatively with a mean survival of 21 months. This study demonstrates that the fibular free flap is highly reliable for reconstructing the lateral mandible in a single stage, with low overall morbidity, and provides for excellent dental and speech rehabilitation. For most patients, the fibular free flap should be considered for lateral mandibular reconstruction even in those patients with a limited life expectancy. Author.

A review of management of benign paroxysmal positional vertigo by exercise therapy and by repositioning manoeuvres. Beynon, G. J. Audiology Department, Addenbrooke's Hospital, Cambridge, UK. *British Journal of Audiology* (1997) February, Vol. 31 (1), pp. 11-26.

Benign paroxysmal positional vertigo (BPPV) is a common condition that often resolves spontaneously, but can cause

significant distress to a patient. Management of this condition includes no intervention, medication, surgery, physical exercises and more recently 'particle repositioning' manoeuvres. Repositioning manoeuvres aim to relocate free-floating particles from the posterior semicircular canal into the utricle where they will no longer cause vertiginous symptoms. This article describes the different exercises and repositioning manoeuvres in use and examines their efficacy. In the light of this review a management strategy for BPPV is suggested. Author.

Selective use of tracheostomy in surgery for head and neck cancer: an audit. Crosher, R., Baldie, C., Mitchell, R. Department of Maxillofacial Surgery, City Hospital, Edinburgh, Scotland. *British Journal of Oral Maxillofacial Surgery* (1997) February, Vol. 35 (1), pp. 43–5.

This retrospective study was designed to define the role of tracheostomy in the operative treatment of patients with cancers of the head and neck. The subjects were 51 patients who underwent neck dissection with resection of the tumour and repair during the period January 1992–December 1994, out of a total of 109 patients who were treated for cancers of the head and neck during that time. Three patients required tracheostomies, two of which were done preoperatively, and one immediately post-operatively for respiratory distress. There were no operative deaths. Morbidity included wound infection (n = 2), chest infection caused by *Haemophilus influenzae* (n = 1), transient fever associated with blood transfusion (n = 5), and transient fever of no obvious cause (n = 3). Median hospital stay was 10 days (range 4–38). Patients undergoing operations for cancers of the head and neck do not require routine tracheostomy. Further research on how to select patients who will need tracheostomy is necessary and is being done. Author.

Circulating markers in squamous cell carcinoma of the head and neck: a review. Rassekh, C.H., Johnson, J. T., Eibling, D. E. Department of Otolaryngology, University of Pittsburgh School of Medicine, Pennsylvania, USA. *European Journal of Cancer B oral Oncology* (1994) January, Vol. 30B (1), pp. 23–8.

Biological markers of disease enhance the ability to diagnose, treat and evaluate results of therapy and are especially intriguing for their potential use in the management of malignant tumours. The serum levels of various biochemical substances have been shown to be abnormal for many cancers and are utilized in the management of affected patients. Several markers have been thoroughly investigated for potential clinical utility in head and neck carcinoma. Although no single marker has been found to be adequately sensitive and specific, combinations of markers may improve the utility for some aspects of patient management. This review highlights the literature to date in the realm of circulating markers for head and neck carcinoma. A discussion of the potential usefulness and limitations of such markers follows. Author.

High prevalence of human papillomavirus types 16 and 18 in middle-ear carcinomas. Tsai, S. T., Li, C., Jin, Y. T., Chao, W. Y., Su, I. J. Department of Otolaryngology, National Cheng Kung University Medical College, Tainan, Taiwan. *International Journal of Cancer* (1997) April 10, Vol. 71 (2), pp. 208–12.

Chronic suppurative otitis media, averaging 20 or more years of duration, has been associated with cancer in this region in 40–80 per cent of cases. Although human papillomaviruses (HPV) have been implicated in many human squamous-cell neoplasms, their role in the pathogenesis of middle-ear malignancies remains unexplored. In this study, we investigated the presence and subtypes of HPV in middle-ear carcinomas. Formalin-fixed and paraffin-embedded tumour tissues were sampled for DNA extraction. PCR was done with consensus primers, capable of detecting HPV 16, 18, 31, 33, 52b and 58. Typing of the products generated by consensus primers was performed with restriction enzyme digestion. It was found that a resulting 89 per cent (8/9) of the middle-ear carcinomas contained HPV DNA. Coexistence of HPV 16 and 18 was detected in three squamous-cell carcinomas. HPV 16 was detected in four squamous-cell carcinomas and one adenocarcinoma. The high prevalence of high-risk-type HPV in carcinomas of the middle ear suggests that viral infection may be an important etiologic component in the carcinogenic process. Author.

Results of surgery for head and neck tumors that involve the carotid artery at the skull base. Brisman, M. H., Sen, C., Catalano, P. Department of Neurosurgery, The Mount Sinai Medical Center, New York, New York 10029, USA. *Journal of Neurosurgery* (1997) May, Vol. 86 (5), pp. 787–92.

To evaluate the results of surgery in patients with head and neck cancers that involved the internal carotid artery at the skull base the authors retrospectively reviewed a consecutive series of 17 patients who underwent surgery at Mount Sinai Hospital over a four-year period. In general, patients who underwent tumour resection with carotid preservation had less advanced disease (two of seven tumours were recurrences) than patients who underwent tumour resection with carotid sacrifice (seven of 10 tumours were recurrences). Of seven patients who underwent resection with carotid preservation, six had good outcomes (five patients alive in good condition, one dead at 2.2 years) and none had strokes. Of seven patients who underwent resection with carotid sacrifice and bypass, five had good outcomes (four alive in good condition, one dead at 2.5 years with no local recurrence) and two suffered graft occlusions that led to strokes, one of which was major and permanently disabling. Of three patients who underwent resection with carotid sacrifice and ligation without revascularization, there were no good outcomes: all three patients died within six months of surgery, two having suffered major permanently disabling strokes. The overall results (11 (65 per cent) of 17 with good outcomes at an average follow-up period of 2.1 years) compared very favourably with historical nonsurgical controls. The authors conclude that tumour resection with carotid preservation carries the lowest risk of stroke and should usually be the treatment of choice. For patients with more advanced and recurrent disease, in whom it is believed that carotid preservation would prevent a safe and oncologically meaningful resection, carotid sacrifice with carotid bypass may be a useful treatment option. Carotid sacrifice without revascularization seems to be the treatment option with the least favourable results. Author.

The widened retrolabyrinthine approach: a new concept in acoustic neuroma surgery. Darrouzet, V., Guerin, J., Aouad, N., Dutkiewicz, J., Blayney, A. W., Bebear, J. P. Department of Otorhinolaryngology, University Hospital of Bordeaux, France. *Journal of Neurosurgery* (1997) May, Vol. 86 (5), pp. 812–21.

For many years, the retrolabyrinthine approach has been limited to functional surgery of the cerebellopontine angle (CPA). As a result of the increased surgical exposure, particularly the opening of the internal auditory meatus (IAM), the widened retrolabyrinthine technique permits tumour excision from both the CPA and the IAM, regardless of the histological nature of the tumour. The authors have treated 60 acoustic neuromas of varying sizes via this approach (six per cent intrameatal tumours; 30 per cent > 25mm in diameter). The postoperative mortality rate was 0 per cent. The risk of fistula formation was 3.3 per cent, and 3.3 per cent of the patients suffered from postoperative meningitis. The results for facial nerve function were equivalent to those obtained previously via a widened translabyrinthine approach and those in a series treated via a suboccipital approach (80 per cent with Grades I and II, 15 per cent with Grade III, and five per cent with Grades V and VI). One patient (1.7 per cent) required a secondary hypoglossal-facial nerve anastomosis and had attained a Grade IV result six months later. Postoperatively 21.7 per cent of these patients maintained socially useful hearing and 20 per cent had mediocre hearing. Socially useful hearing was preserved in 50 per cent of a subgroup of 20 patients who had both preoperative hearing and a tumour that involved less than half of the IAM regardless of its volume. Additionally, 15 per cent had mediocre hearing that could be improved with hearing aids. Because of its efficacy in preserving hearing, the authors favour the retrolabyrinthine over the occipital approach, with the latter being considered less subtle and more aggressive. Author.

Oronasal distribution of ventilation at different ages. James, D. S., Lambert, W. E., Mermier, C. M., Stidley, C. A., Chick, T. W., Samet, J. M. Department of Internal Medicine, University of New Mexico Medical Center, Albuquerque 87131-5306, USA. *Archives of Environmental Medicine* (1997) March–April, Vol. 52 (2), pp. 118–23.

The route of breathing, oral or nasal, is a determinant of the doses of inhaled pollutants delivered to target sites in the upper and lower respiratory tracts. We measured partitioning of ventilation,

using a divided oronasal mask during a submaximal exercise test, in 37 male and female subjects who ranged in age from seven to 72 years. The following four patterns of breathing were evident during exercise: (1) nasal only (13.5 per cent), nasal shifting to oronasal (40.5 per cent), oronasal only (40.5 per cent), and oral only (5.4 per cent). Children (i.e. seven to 16 years of age) displayed more variability than adults with respect to their patterns of ventilation with exercise. Young adults (i.e. 17–30 years of age) who initially breathed nasally with exercise switched to oral ventilation at a lower percentage of the previously measured maximum ventilation (10.8 per cent) than older subjects (31.8 per cent). The partitioning of ventilation between the nasal and oral routes follows complex patterns that cannot be predicted readily by the age, gender, or nasal airway resistance of the subject. Author.

Open randomized trial of prescribing strategies in managing sore throat. Little, P., Williamson, I., Warner, G., Gould, C., Gantley, M., Kinmonth, A. L. Primary Medical Care, Faculty of Health, Medicine, and Biological Sciences, Alderbrook Health Centre, Southampton University. *British Medical Journal* (1997) March 8, Vol. 314 (7082), pp. 722–7.

OBJECTIVE: To assess three prescribing strategies for sore throat. **DESIGN:** Randomized follow up study. **SETTING:** Eleven general practices in the South and West region. **SUBJECTS:** Seven hundred and sixteen patients aged four years and over with sore throat and an abnormal physical sign in the throat; 84 per cent had tonsillitis or pharyngitis. Patients were randomized to three groups: prescription for antibiotics for 10 days (group 1, 246 patients); no prescription (group 2, 230 patients); or prescription for antibiotics if symptoms were not starting to settle after three days (group 3; 238 patients). **MAIN OUTCOME MEASURES:** duration of symptoms; satisfaction and compliance with and perceived efficacy of antibiotics; time off school or work. Outcomes were documented in 582 subjects (81 per cent). **RESULTS:** Median duration of antibiotic use differed significantly in the three groups (10 v 0 v 0 days, $p < 0.001$); 69 per cent of patients in group 3 did not use their prescription. The proportion of patients better by day three did not differ significantly (37 per cent v 35 per cent v 30 per cent, $p = 0.28$), nor did the duration of illness (median 4 v 5 v 5 days, $p = 0.39$), days off work or school (median 2 v 2 v 1, $p = 0.13$), or proportion of patients satisfied (96 per cent v 90 per cent v 93 per cent, $p = 0.09$), although group 1 had fewer days of fever (median 1 v 2 v 2 days, $p = 0.04$). More patients in group 1 thought the antibiotics were effective (87 per cent v 55 per cent v 60 per cent, $p < 0.001$) and intended coming to the doctor in future attacks (79 per cent v 54 per cent v 57 per cent, $p < 0.001$). 'Legitimation' of illness—to explain to work or school (60 per cent) or family or friends (37 per cent)—was an important reason for consultation. Patients who were more satisfied got better more quickly, and satisfaction related strongly to how well the doctor dealt with patient's concerns. **CONCLUSION:** Prescribing antibiotics for sore throat only marginally affects the resolution of symptoms but enhances belief in antibiotics and intention to consult in future when compared with the acceptable strategies of no prescription or delayed prescription. Psychosocial factors are important in the decision to see a general practitioner and in predicting the duration of illness. Author.

Stereotactic multiple arc radiotherapy. II—Cranial neuroma. Chakrabarti, K. B., Doughty, D., Plowman, P. N. Department of Radiotherapy/Oncology, St Bartholomew's Hospital, West Smithfield, London, UK. *British Journal of Neurosurgery* (1996) December, Vol. 10 (6), pp. 577–83.

We report our early experience using stereotactic radiotherapy (radiosurgery) in the treatment of cranial neuroma, by the linear accelerator method. We report the first 13 neuromas treated in 12 patients (follow-up six to 60 months). Radiologically, seven of 10 patients demonstrated signs of central tumour necrosis on follow-up scanning and four of these also demonstrated shrinkage. Of seven assessable acoustic neuroma patients treated, hearing was stabilized in three and improved in two. An abducent neuroma patient treated by this method is reported and demonstrated good response. Our preliminary studies endorse the opinion that stereotactic radiosurgery is a suitable and safe alternative to microsurgical procedures in the management of many cranial neuromas. Indications for stereotactic radiosurgery are discussed. Author.

Auditory neuropathy: a report on three cases with early onsets and major neonatal illnesses. Deltre, P., Mansbach, A. L., Bozet, C., Clercx, A., Hecox, K. E. Université Libre de Bruxelles, Belgium. *Electroencephalography and Clinical Neurophysiology* (1997) January, Vol. 104 (1), pp. 17–22.

We report three children without any brainstem auditory evoked potential (BAEP) neural component who all retained isolated cochlear microphonic potentials as well as click-evoked otoacoustic emissions. Two of them demonstrated only moderately impaired audiometric thresholds. These features correspond to a peculiar pattern of auditory dysfunction recently coined 'auditory neuropathy'. In contrast with the published previous cases of auditory neuropathy presenting with an acquired hearing deficit as children or young adults, all three children had a history of major neonatal illness and the auditory neuropathy was already demonstrated in the first months of their lives. Author.

The role of the cochlear efferent system in acquired resistance to noise-induced hearing loss. Zheng, X. Y., Henderson, D., McFadden, S. L., Hu, B. H. Department of Communicative Disorders and Sciences, State University of New York at Buffalo 14214, USA. *Hearing Research* (1997) February, Vol. 104 (1–2), pp. 191–203.

Previous work has shown that the cochlear efferent system may play a role in protecting the ear from noise-induced temporary threshold shifts (TTS) following exposures to a single tone or series of moderate-level noises ('toughening'). However, whether the olivocochlear bundle (OCB) is important in decreasing noise-induced permanent threshold shifts (PTS) remains an open question. The importance of the OCB in decreasing the ear's susceptibility to noise, as reflected by 2f₁-f₂ distortion product otoacoustic emissions, was assessed by sectioning both the ipsilateral and contralateral divisions by the efferent system and exposing chinchillas while awake to an octave band noise (4 kHz) at a low level (85 dB SPL) for 10 days (six h/day) and then at a high level (95 dB SPL) for 48 h. Complete de-efferentation was verified by cochlear acetylcholinesterase staining. The ears that were de-efferent showed substantially more TTS, greater PTS and larger cochlear lesions of outer hair cells. The results suggest that the efferent system may influence the ear's ability to develop resistance to noise trauma. Author.

A case of familial sternocleidomastoid tumor of infancy. Tavill, M. A., Wetmore, R. F. Department of Otolaryngology, Children's Hospital of Philadelphia, PA, USA. *International Journal of Pediatric Otorhinolaryngology* (1996) December 20, Vol. 38 (2), pp. 163–8.

Sternocleidomastoid tumour of infancy (STOI) is a benign, firm, fibrous swelling predominantly involving the middle or inferior third of the sternocleidomastoid muscle. Patients may present simultaneously with, or progress to the development of, congenital, muscular torticollis (CMT) during childhood. This pseudotumour affects infants in their first few weeks of life with the vast majority showing complete regression over the ensuing few months. Multiple postulates have been presented as to the exact etiology of STOI; however, the cause is still unknown. Two siblings, both requiring vacuum extraction during delivery, presented at four weeks of age to the Children's Hospital of Philadelphia (CHOP) with STOI. The possible genetic predisposition of these siblings to develop STOI is hypothesized. Familial cases of CMT have been reported along with the possible genetic or peripartum factors that could play a role in its development. We reviewed these same mechanisms that could also predispose to familial STOI. Currently, magnetic resonance imaging is the diagnostic modality of choice. Fortunately, the majority of STOI responds to conservative measures with aggressive physical therapy, thus avoiding the need for operative intervention. Author.

Otitis media with effusion in paediatric cochlear implantees: the role of peri-implant grommet insertion. Papsin, B. C., Bailey, C. M., Albert, D. M., Bellman, S. C. Department of Paediatric Otolaryngology, Great Ormond Street Hospital for Children NHS Trust, London, UK. *International Journal of Pediatric Otorhinolaryngology* (1996) December 5, Vol. 38 (1), pp. 13–9.

INTRODUCTION: Otitis media with effusion (OME) is a common disease coincident with the need for cochlear implantation in 44 per cent of the 45 children (mean = 4.8 years) currently

implanted at our centre. Our suspicion that peri-implant effusion contributed to complications generated our interest in studying this issue. **METHOD:** Retrospective review of patient records was carried out with the focus on clinical and audiological evidence of OME before, during and after implantation. Operative records were reviewed to determine any effect OME had on the procedure and postoperative complications. **RESULTS:** Of our 45 implanted patients, 10 males and 10 females had OME prior to or after implantation. Pre-implant, 19 children had OME diagnosed and 11 received grommets (six had multiple sets). Peri-implantation, 11 children had OME. These children with peri-implant effusions had two of three major, two of two intermediate and one of two minor complications. Children with peri-implant effusions also accounted for three of four cases in which there were bothersome middle ear effusions or granulation tissue at operation. The six children in whom grommets were placed within two months of cochlear implantation accounted for only one case of effusion at implantation and their courses were complicated only by a keloid in one child and a late flap disruption in another. **SUMMARY:** Insertion of grommets prior to cochlear implantation in children with peri-implant OME may provide some protection against intra-operative and some post-operative complications. Our management policy in patients with OME now aims at placing grommets such that they are in and patent at the time of implantation. Author.

Prevention of persistent ear drum perforation after long-term ventilation tube treatment for otitis media with effusion in children. Saito, T., Iwaki, E., Kohno, Y., Ohtsubo, T., Noda, I., Mori, S., Yamamoto, T., Shibamori, Y., Saito, H. Department of Otolaryngology, Fukui Medical School, Japan. *International Journal of Pediatric Otorhinolaryngology* (1996) December 5, Vol. 38 (1), pp. 31–9.

The effect of tape patch technique using Steri-Strip tape in combination with freshening of the perforation edge after removal of long-term ventilation tubes for preventing permanent ear drum perforation was evaluated. The longer the tubes remained in place, the higher the incidence of persistent perforation after tube removal. The perforation rate after Goode T-tube treatment was four per cent in the spontaneous extrusion group and 14.3 per cent in the intentional removal group. In the ears treated by tape patch application, none of the perforations persisted after removal of the Goode T-tube. After removal or extrusion of Paparella Type II tube, perforations did not close in 13.2 per cent of the group without tape patch application. When a tape patch was applied, only one perforation (3.3 per cent) did not close. From these results, tape patch technique in combinations, with freshening of the perforation edge at the time of tube removal was useful to promote healing and prevent persistent ear drum perforation. Author.

Hypoplasia of the epiglottis case report and review. Benjamin, B., Dalton, C. Department of Otolaryngology, Sydney University, New South Wales, Australia. *International Journal of Pediatric Otorhinolaryngology* (1996) December 5, Vol. 38 (1), pp. 65–9.

We report an infant born with a hypoplastic epiglottis and present the first *in vivo* photograph of the condition. Absence or hypoplasia of the epiglottis is a rare anomaly. Previously reported cases either died shortly after birth due to multiple congenital anomalies or details of the outcome were lacking. The clinical effects of hypoplastic epiglottis are discussed. Author.

Spinal and cutaneous schwannomatosis is a variant form of type 2 neurofibromatosis: a clinical and molecular study. Evans, D. G., Mason, S., Huson, S. M., Ponder, M., Harding, A. E., Strachan, T. Department of Medical Genetics, St Mary's Hospital, Manchester, UK. *Journal of Neurology, Neurosurgery and Psychiatry* (1997) April, Vol. 62 (4), pp. 361–6.

OBJECTIVE: To delineate the clinical phenotype, molecular basis, and implications for screening in patients and families with multiple schwannomas not generally involving the cranium. **METHODS:** As part of a United Kingdom clinical and genetic study of type 2 neurofibromatosis (NF2) patients and families with multiple schwannomas who do not fulfil diagnostic criteria for NF2 have been identified. The clinical phenotype was studied in the extended families and molecular analysis was carried out at the NF2 gene locus on chromosome 22. **RESULTS:** Patterns of inheritance in five families with schwannomatosis are consistent

with inheritance of an autosomal dominant gene. The consistency of phenotype, with relative sparing of the cranium, is constant in these families. However, families which initially seem to be indicative of schwannomatosis may develop into classic NF2 as shown by a sixth family. Many of the tumours found in these families were referred to as 'neurofibroma' when they were clearly schwannomas. This difference in classification has major implications for the relative risk of each particular type of neurofibromatosis and neuropathological review may be important in some cases. Genetic linkage analysis in the two largest families is entirely consistent with primary involvement of the NF2 gene. **CONCLUSIONS:** Variant forms of neurofibromatosis have presented a dilemma in classification and determination of recurrence risks in families. Previous reports have suggested that schwannomatosis is a sporadic non-hereditary condition. Patients with multiple schwannomas are likely to have a variant form of NF2 and up to a 50 per cent risk of passing on a gene predisposing to multiple schwannoma. Author.

Acoustic neuroma: correlations between morphology and otoneurological manifestations. Berrettini, S., Ravecca, F., Sellari-Franceschini, S., Bruschini, P., Casani, A., Padolecchia, R. Ear Nose and Throat (ENT) Department, University of Pisa, Italy. *Journal of Neurological Science* (1996) December, Vol. 144 (1–2), pp. 24–33.

Forty-two patients with acoustic neuroma (AN) were studied to determine whether different types of neuroma could be correlated with specific signs and symptoms of the disease. Based on gadolinium-enhanced T1-weighted MRI sequences, the 42 cases of AN could be divided into three groups, either by size (small: 11.9 per cent, medium: 50 per cent, and large: 38.1 per cent) or by site of origin of the tumour (lateral: 16.7 per cent, intermediate: 69 per cent, and medial: 14.3 per cent). Relations were found between the size and the site of origin of the neuromas and certain clinical, audiological and vestibular findings. The clinical presentation seemed to vary with the site of origin and the size of the tumour: patients with lateral neuromas generally had small tumours, sometimes only located in the internal auditory canal (IAC), and presented early subjective hearing loss while patients with medial neuromas had larger tumours which grew without causing significant audiological symptoms. Normal hearing function was seen only in the patients with medial ANs; however, a significant relation between the size or the site of origin of the AN and the average hearing threshold was not demonstrated. The sensitivity of the stapedial reflex test (SR) was higher for lateral ANs. Anomalies in the brainstem auditory evoked potentials (BAEPs) did not seem to be related to either the size or the site of origin of the AN. The vestibular tests demonstrated a higher frequency of central vestibular involvement in the large tumours, while normal function was more frequent in the lateral tumours. In the group studied the combination of BAEPs and vestibular tests allowed us to identify all the ANs with an optimal level of sensitivity. Author.

Experimental study of the safety of simultaneous nasal and Le Fort I osteotomies. Li, K. K. Department of Otolaryngology–Head and Neck Surgery, University of California, Irvine 92668, USA. *Journal of Maxillofacial Surgery* (1997) April, Vol. 55 (4), pp. 371–4.

PURPOSE: This study evaluated the risk of unfavourable fractures extending to adjacent structures from nasal osteotomies during simultaneous rhinoplasty and Le Fort I osteotomy. **MATERIALS AND METHODS:** Sixteen nasal osteotomies (medial and lateral) were performed in conjunction with Le Fort I osteotomy on eight fresh cadaver heads. Skin and soft tissue of the face were removed and the patterns of fracture along the nasal bones and the presence of unfavourable fractures extending from the nasal osteotomies toward the orbit, skull base, and the maxillary osteotomy site were assessed. **RESULTS:** All 16 nasal osteotomies were successfully performed with a single pass of the osteotome. The nasal bones were easily mobilized in every instance. There were 11 (69 per cent) complete fractures and five (31 per cent) greenstick fractures at the superior aspect of the

nasal bones. There were no unfavourable fractures extending from the nasal fracture sites toward the skull base, orbit, or the maxillary osteotomy site. **CONCLUSION:** Simultaneous Le Fort I osteotomy and nasal osteotomies can be performed without significant risk of unfavourable fractures or extension of the fracture lines to adjacent structures. Author.

Primary care-based randomized placebo-controlled trial of antibiotic treatment in acute maxillary sinusitis. van Buchem, F. L., Knottnerus, J. A., Schrijnemaekers, V. J., Peeters, M. F. Department of Otorhinolaryngology, St Elisabeth Hospital, Tilburg, Netherlands. *Lancet* (1997) March 8, Vol. 349 (9053), pp. 683-7. **BACKGROUND:** The value of antibiotics in acute rhinosinusitis is uncertain. Although maxillary sinusitis is commonly diagnosed and treated in general practice, no effectiveness studies have been done on unselected primary-care patients. We used a randomized, placebo-controlled design to test the hypothesis that there would be an improvement associated with amoxicillin treatment for acute maxillary sinusitis patients presenting to general practice. **METHODS:** Adult patients with suspected acute maxillary sinusitis were referred by general practitioners for radiographs of the maxillary sinus. Those with radiographic abnormalities ($n = 214$) were randomly assigned treatment with amoxicillin (750mg three times daily for seven days; $n = 108$) or placebo ($n = 106$). Clinical course was assessed after one week and two weeks, and reported relapses and complications were recorded during the following year. **FINDINGS:** After two weeks, symptoms had improved substantially or disappeared in 83 per cent of patients in the study group and 77 per cent of patients taking placebo. Amoxicillin did not influence the clinical course of maxillary sinusitis nor the frequency of relapses during the one-year follow-up. Radiographs had no prognostic value, nor were they an effect modifier. Side-effects were recorded in 28 per cent of patients given amoxicillin and in nine per cent of those taking placebo ($p < 0.01$). The occurrence of relapses was similar in both groups (21 vs 17 per cent) during the follow-up year. **INTERPRETATION:** Antibiotic treatment did not improve the clinical course of acute maxillary sinusitis presenting to general practice. For these patients, an initial radiographic examination is not necessary and initial management can be limited to symptomatic treatment. Whether antibiotics are necessary in more severe cases warrants further study. Author.

Pharmacoeconomic impact of factors affecting compliance with antibiotic regimens in the treatment of acute otitis media. Wandstrat, T. L., Kaplan, B. Department of Clinical Pharmacy, Robert C. Byrd Health Sciences Center of West Virginia University-Charleston Division 25304, USA. *Pediatric Infectious Disease Journal* (1997) February, Vol. 16 (2 Suppl), pp. S27-9. **BACKGROUND:** The total cost of treating otitis media in the United States alone is estimated at >3.5 billion dollars annually. Therefore treatment approaches that reduce the cost of managing otitis media can have a large impact on overall health care costs. **METHODS:** In this study cost effectiveness factors of various antimicrobial agents, such as adverse events and overall patient acceptance, were examined. **RESULTS:** Decreased patient acceptance and higher incidence of adverse events had a negative impact on the cost of treatment. Amoxicillin/clavulanate, cefprozil, erythromycin/sulfisoxazole and trimethoprim/sulfamethoxazole were found to be associated with decreased patient acceptance compared with cefixime. Cefixime also had the lowest number of adverse events of any of the drugs used. Amoxicillin had the lowest total cost for a single course of treatment, exclusive of costs of recurrence, which were examined in a previous study. **CONCLUSION:** This study concluded that in cases in which several antibiotics may be clinically effective, comparative tolerability and patient acceptance data should be considered for selection of appropriate therapy. High compliance and lower morbidity can result in costs and better quality of life. Author.

Antimicrobial prescribing for acute purulent rhinitis in children: a survey of pediatricians and family practitioners. Schwartz, R. H., Freij, B. J., Ziai, M., Sheridan, M. J. Department of Pediatrics, Fairfax Hospital for Children, VA, USA. *Pediatric Infectious Disease Journal* (1997) February, Vol. 16 (2), pp. 185-90.

BACKGROUND: The tenet that children with acute purulent rhinitis need not be treated with antibiotics unless drainage persists for seven to 10 days is taught to medical students and residents in primary care specialties but may not be adhered to in actual clinical practice. Because of the global increase in bacterial resistance stemming largely from the overuse of antibiotics, we sought to determine how acute purulent rhinitis is managed in the primary care setting. **METHODS:** We surveyed all 450 pediatricians (PD) and family practitioners (FP) in northern Virginia who were in active practice in 1994. The survey instrument was a questionnaire containing two clinical vignettes followed by a series of multiple choice or fill-in-the-blanks questions. Initial nonresponders received up to three additional mailings of the same questionnaire. **RESULTS:** There were 346 (77 per cent) evaluable responses. Seventy-one per cent of FP and 53 per cent of PD ($p = 0.001$) immediately prescribed antibiotics for infants with scant, green nasal mucopurulent secretions of one day duration; fewer treated an older child immediately (50 per cent FP vs. 24 per cent PD, $p < 0.00001$). Only 15 per cent of FP vs 23 per cent of PD ($p = 0.07$) waited for seven to 10 days of persistent purulent nasal drainage in infants before prescribing antibiotics. Ninety-four per cent of FP and 95 per cent of PD ($p = 0.8$) indicated that they would prescribe antibiotics immediately for infants with acute purulent rhinitis who attended day care. For otitis-prone children who were not in day care, 86 per cent of FP and 78 per cent of PD ($p = 0.02$) would also treat without delay. The reasons given for prompt antibiotic therapy were (1) the belief that many untreated patients would develop persistent purulent nasal drainage, (2) concern that acute otitis media would develop, (3) pressure from mothers to prescribe an antibiotic and/or (4) the desire to allow employed parents to return to work earlier. Amoxicillin was the initial choice for 89 per cent of FP vs 76 per cent of PD ($P = 0.003$). Most FP (89 per cent) and PD (97 per cent) were concerned about the increase in bacterial resistance rates arising from unnecessary antibiotic prescribing ($p = 0.01$). **CONCLUSIONS:** Most infants and children with acute purulent rhinitis of short duration were treated with antibiotics despite professed concerns over the spread of bacterial resistance; the practice was more prevalent among FP. Author.

Normal and opacified middle ears: CT appearance of the stapes and incudostapedial joint. Lemmerling, M. M., Stambuk, H. E., Mancuso, A. A., Antonelli, P. J., Kubilis, P. S. Dienst Radiologie en Medische Beeldvorming, Universitair Ziekenhuis Gent, Belgium. *Radiology* (1997) April, Vol. 203 (1), pp. 251-6.

PURPOSE: To establish the computed tomographic (CT) visibility of the incudostapedial joint and of the stapes superstructure in normal and opacified middle ears. **MATERIALS AND METHODS:** Two independent observers reviewed CT studies with 1 mm section thickness of the temporal bone in 75 normal ears and in 33 opacified middle ears (13 of which had definitive proof of disease) to establish the rate of visualization of the stapes and incudostapedial joint. **RESULTS:** In normal ears, both the stapes crura and the continuity between the incus and stapes were seen in almost 100 per cent of cases, whereas the actual incudostapedial joint was identified in 86 per cent (86 observations) and 67 per cent (67 observations) of cases in the axial and coronal planes, respectively. The position of the incudostapedial joint was below footplate level on the axial images and mostly at or anterior to the midportion of the foot-plate on the coronal images. In 13 clinically confirmed diseased middle ears, the status of the stapes superstructure in all cases and that of the incus in 11 cases was correctly predicted with CT. **CONCLUSION:** It is now possible to visualize routinely the incudostapedial joint and stapes superstructure at CT. Absence of these structures in an opacified middle ear strongly indicates abnormality. Author.