

## Abstract Selection

**Acoustic trauma caused by lightning.** Mora-Magana, I., Collado-Corona, M. A., Toral-Martinon, R., Cano, A. Audiology Department, Instituto Nacional de Pediatria, Deleg Coyoacan, Mexico. *International Journal of Pediatric Otorhinolaryngology* (1996) March, Vol. 35 (1), pp. 59–69.

Lesions produced by exposure to noise are frequent in everyday life. Injuries may be found in all systems of the human body, from the digestive to the endocrine, from the cardiovascular to the nervous system. Many organs may be damaged, the ear being one of them. It is known that noise produced by factories, airports, musical instruments and even toys can cause auditory loss. Noises in nature can also cause acoustic trauma. This report is the case history of acoustic trauma caused by lightning. The patient was studied with CAT scan, electroencephalogram, and brain mapping, impedance audiometry with tympanogram and acoustic reflex, audiometry and evoked otoacoustics emissions: distortion products and transients. Author.

**Applicability of the L(eq) as a damage-risk criterion: an animal experiment.** Lataye, R., Campo, P. Institut National de Recherche et de Securite (I.N.R.S.), Vandoeuvre, France. *Journal of Acoustical Society of America* (1996) March, Vol. 99 (3), pp. 1621–32.

Within the European communities, the L(eq8h) is used as a damage-risk criterion (DRC) for hearing protection. The use of such a DRC supposes that sound exposures with equal energy imply equal risk for noise-induced hearing loss (NIHL). The aim of the present study, carried out with guinea pigs, was to test the applicability of the L (eq8h) for estimating the hazard of different noises having the same spectrum and acoustic energy. Therefore, only the temporal structure of noises was a variable (continuous, intermittent, or impulsive) and each noise had a L (eq8H) and for the impulse noise (101 dB). Furthermore, the data point out the notion of acrtical intensity which seems to play a determining role in the transition between metabolic and mechanical mechanisms involved in the acoustic trauma. Since the critical intensity and the existence of two mechanisms are parameters that the L(eq8H) cannot take into consideration, recommendations on the safety program of hearing loss prevention are discussed. Author.

**Control of nasal dilator muscle activities during exercise: role of nasopharyngeal afferents.** Sullivan, J., Fuller, D., Fregosi, R.F. Department of Exercise and Sport Sciences, University of Arizona, Tucson 85721, USA. *Journal of Applied Physiology* (1996) May, Vol. 80 (5), pp. 1520–7.

Our primary aim was to determine whether reducing the activity of nasal airway receptors would influence drive to the nasal dilator muscles (NDMs) during exercise. We used lidocaine (2 per cent) or nasal splints to diminish afferent airway receptor activity and measured the electromyogram (EMG) activity of the NDMs during incremental bicycle exercise in subjects who breathed nasally. NDM EMG activities increased as a function of exercise intensity but were not changed by lidocaine and were only slightly reduced by splinting. Similarly, neither intervention altered the normal decrease in NDM EMG activity associated with reductions in airway resistance evoked by He-02 breathing. We also compared the NDM EMG response to exercise with that evoked by CO<sub>2</sub> rebreathing at rest to determine whether the nature of the ventilatory stimulus influences drive to the NDMs; comparison were made at constant levels of nasal inspired ventilation and, therefore, constant total ventilatory output. The increase in EMG activity was much higher during exercise compared with hyperoxic hypercapnia. In conclusion, 1) desensitizing the nasal airway does not alter NDM activity significantly during exercise and 2) exercise

results in much greater increases in NDM activity compared with hypercapnia, indicating that different ventilatory stimuli can evoke more or less activation of upper airway motoneurons, even when comparisons are made at constant levels of total ventilatory output. Author.

**Acoustic rhinometry: influence of paranasal sinuses** Hilberg, O., Pedersen, O. F. Institute of Environmental and Occupational Medicine, Aarhus University, Denmark. *Journal Applied Physiology* (1996) May, Vol. 80 (5), pp. 1589–94.

The influence of the maxillary sinuses in acoustic rhinometry (AR) has not been evaluated, and this is the aim of the present study. We examined six subjects with AR and magnetic resonance imaging (MRI) after nasal decongestion to compare the area-distance relationships determined by the two methods. From the MRI data we obtained copies of the nasal cavities with and without maxillary sinuses, which were made in plastic by a stereolithographic method. AR curves from models without maxillary sinuses differed from AR curves with sinuses included but were in agreement with MRI curves without inclusion of sinuses. A similar difference in AR was seen in two subjects before and after the nasal cavities were flushed with saline to fill up the maxillary sinuses. The measured volume in the first 50 mm of the nasal cavity models was unaffected by the sinuses, but the volume in the first 70 mm corresponding to the length of the nasal cavity septum was increased slightly but significantly (from 10.8 to 11.3 cm<sup>3</sup>;  $p = 0.05$ ). The presence of maxillary sinuses increased the volume of the epipharynx (70–100 mm from the nostril) from 12.2 to 21.3 cm<sup>3</sup> ( $p < 0.01$ ), and this increase was not due to the influence from the contralateral nasal cavity. We conclude that the maxillary sinuses may significantly contribute to the acoustically determined areas in the posterior part of the nasal cavity and the epipharynx, especially during decongestion, and may explain a part of the difference between area-distance curves obtained by AR and MRI, whereas contribution from the contralateral nasal cavity does not. Author.

**Management of the nasal tip by open rhinoplasty.** Raspall, G., Gonzalez-Lagunas, J. Department of Maxillofacial and Head and Neck Surgery, Hospital Universitario Vall d'Hebron, Barcelona, Spain. *Journal of Craniomaxillofacial Surgery* (1996) June, Vol. 24 (3), pp. 145–50.

Open rhinoplasty has acquired widespread recognition in the surgical community in recent years. For many years, traditional closed rhinoplasty was the only possibility for correction of most deformities of the nose. Although it is not the only alternative to difficult nasal problems, the wide exposure achieved with the open technique, the excellent results obtained in the management of the tip and its use as a training procedure for residents, accounts for the new resurgence of the popularity of the technique. Author.

**Possible autosomal recessive inheritance of progressive hearing loss with stapes fixation.** Thies, C., Handrock, M., Sperling, K., Rcis, A. Institut fur Humangenetik, Virchow-Klinikum, Humboldt Universitat zu Berlin, Germany. *Journal of Medical Genetics* (1996) July, Vol. 33 (7), pp. 597–9.

Four sibs with progressive, bilateral conductive hearing loss are presented. Symmetrical hearing loss averaging 30–60 dB (0.125–8 kHz) because apparent between eight and 24 years of age. Tympanotomy showed a fixed stapes either through ossified stapedius tendon or through ossified stapedius tendon or through a bony bridge from the stapes to the pyramidal eminence in all patients. After surgical removal of the bony tendon hearing was normal. Both parents, four other sibs, and all grandparents had normal hearing. This family and a further published case suggest a possibly recessive inheritance of this form of conductive hearing loss. Author.

**Neuroendocrine carcinoma of the larynx.** Hartley, C., Birzgalis, A. R., Lyons, T. J., Farrington, W. T. University Department of Otolaryngology, University of Manchester Medical School, UK. *Journal of the Royal College of Surgeons Edinburgh* (1996) October, Vol. 41 (5), pp. 333–5.

Neuroendocrine carcinomas (NEC) of the larynx are rare. The key to diagnosis is therefore an increased awareness of such lesions amongst otolaryngologists and pathologists. A precise histological diagnosis is crucial, as the management is different for each NEC sub-type. Advances in immunohistochemistry have been a great help in this respect. We report a typical case of large cell NEC (atypical carcinoid) and highlight the clinical pointers to the histological diagnosis. Author.

**Randomized controlled trial of treatment of chronic suppurative otitis media in Kenyan schoolchildren (see comments).** Smith, A. W., Hatcher, J., Mackenzie, I. J., Thompson, S., Bal, I., Macharia, I., Mugwe, P., Okoth-Olende, C., Oburra, H., Wanjohi, Z. Hearing Impairment Research Group, Liverpool School of Tropical Medicine, UK. *Lancet* (1996) October 26, Vol. 348 (9035), pp. 1128–33. Comment in: *Lancet* (1996) October 26, 348 (9035).

**BACKGROUND:** The outcomes of treatment of chronic suppurative otitis media (CSOM) are disappointing and uncertain, especially in developing countries. Because CSOM is the commonest cause of hearing impairment in children in these countries an effective method of management that can be implemented on a wide scale is needed. We report a randomized, controlled trial of treatment of CSOM among children in Kenya; unaffected school children were taught to administer the interventions. **METHODS:** We enrolled 524 children with CSOM, aged five to 15 years, from 145 primary schools in Kiambu district of Kenya. The schools were randomly assigned treatments in clusters of five in a ratio of two to dry mopping alone (201 children), two to dry mopping with topical and systemic antibiotics and topical steroids (221 children), and one to specific treatment (102 children). Schools were matched on factors thought to be related to their socioeconomic status. The primary outcome measures were resolution of otorrhoea and healing of tympanic membranes on otoscopy by 8, 12, and 16 weeks after induction. Absence of perforation was confirmed by tympanometry, and hearing levels were assessed by audiometry. Twenty-nine children were withdrawn from the trial because they took non-trial antibiotics. There was no evidence of differences in timing of withdrawals between the groups. **FINDINGS:** By the 16 week follow-up visit, otorrhoea had resolved in a weighted mean proportion of 51 per cent (95 per cent CI 42–59) of children who received dry mopping with antibiotics, compared with 22 per cent (14–31) of those who received dry mopping alone and 22 per cent (9–35) of controls. Similar differences were recorded by the eight-week and 12-week visits. The weighted mean proportions of children with healing of the tympanic membranes by 16 weeks were 15 per cent (10–21) in the dry-mopping plus antibiotics group, 13 per cent (5–20) in the dry-mopping alone group, and 13 per cent (3–23) in the control group. The proportion with resolution in the dry-mopping alone group did not differ significantly from that in the control group at any time. Hearing thresholds were significantly better for children with no otorrhoea at 16 weeks than for those who had otorrhoea, and were also significantly better for those whose ears had healed than for those with otorrhoea at all times. **INTERPRETATION:** Our finding that dry mopping plus topical and systemic antibiotics is superior to dry mopping alone contrasts with that of the only previous community-based trial in a developing country, though it accords with findings of most other trials in developed countries. The potential role of antibiotics needs further investigation. Further, similar trials are needed to identify the most cost-effective and appropriate treatment regimen for CSOM in children in developing countries. Author.

**Anterior transcranial (craniofacial) resection of tumours of the paranasal sinuses: surgical technique and results.** McCutcheon, I. E., Blacklock, J. B., Weber, R. S., DeMonte, F., Moser, R. P., Byers, M., Goepfert, H. Department of Neurosurgery, University of Texas M.D. Anderson Cancer Center, Houston, USA. *Neurosurgery* (1996) March, Vol. 38 (3), pp. 471–9 discussion 479–80. Transfacial approaches, traditionally used for malignant tumours of the paranasal sinuses, provide limited exposure when several

sinuses are involved and are unsuitable for tumours that erode through the floor of the anterior cranial fossa. A transcranial approach may aid in the removal of such lesions. To better understand the risks and benefits of this surgical approach, we reviewed all patients ( $n = 76$ ) who underwent a transcranial approach as part of the excision of paranasal sinus lesions between 1984 and 1993 at our institution. The spectrum of disease included adenocarcinoma (13 patients), squamous cell carcinoma and olfactory neuroblastoma (11 patients each), adenoid cystic carcinoma and poorly differentiated forms of carcinoma (six patients each), melanoma (five patients), and miscellaneous others (24 patients). Most patients had ethmoid sinus involvement; tumors were also commonly found in the cribriform plate, sphenoid sinus, and nasal fossa. In each patient, a bifrontal craniotomy was performed with extradural dissection to the floor of the anterior fossa and osteotomies for resection of involved elements. In 47 patients (62 per cent), disease in the orbit, the anterior nasal cavity, or the soft tissues of the face required transfacial as well as transcranial resections. Bony defect in the anterior fossa floor was repaired with a pedicled pericranial flap. Patients with major complications included six patients with epipericranial and/or epidural hematomas requiring evacuation, three with transient cerebrospinal fluid leaks, two who developed bifrontal cerebral infarcts, and one who died soon after surgery. No meningitis was seen. To date, 26 patients (34 per cent) have died; of those living (mean follow-up, 34 months), 42 (84 per cent) remain in full remission. The transcranial approach can achieve removal of erosive, invasive tumours from this area with predictable morbidity and may be considered whenever sinus tumour breach the anterior cranial base or extend beyond the reach of conventional transfacial approaches. Author.

**The ten-day mark as a practical diagnostic approach for acute paranasal sinusitis in children.** Ueda, D., Yoto, Y. Department of Pediatrics, Sapporo Higashi-Tokushukai Hospital, Japan. *Pediatric Infectious Diseases Journal* (1996) July, Vol. 15 (7), pp. 576–9.

**BACKGROUND:** Sinusitis is one of the diseases most frequently overlooked by the primary practitioner. **METHODS:** We suspected the diagnosis of sinusitis in children with respiratory symptoms that persisted for >10 days: the 10-day mark. A radiographic projection of maxillary sinuses (Water's view) was indicated, and patients with abnormal radiographs were diagnosed as having sinusitis. After antimicrobial treatment for two weeks, we evaluated clinical outcome and follow-up radiographs. **RESULTS:** The 10-day mark culled 146 suspected children from 2013 outpatients with respiratory complaints. Water's view radiographs revealed sinusitis in 135 patients (92.5 per cent of the suspected children). They included 35 patients with allergy. After treatment only four patients in the allergy group (11 per cent) improved completely. In contrast 61 nonallergic patients (61 per cent) were completely improved. **CONCLUSIONS:** The 10-day mark is a simple and practical diagnostic basis for acute paranasal sinusitis. The associated allergic respiratory diseases respond infrequently to antimicrobial treatment. Author.

**Tonsillar carcinoma in the early postoperative course following heart transplantation.** Gummert, J. F., Falk, V., Walther, T., Diegeler, A., Baryalei, M., Mohr, F. W., Dalichau, H. Department of Cardiothoracic and Vascular Surgery, Universität Göttingen, Germany. *Thorac Cardiovascular Surgery* (1995) December, Vol. 43 (6), pp. 355–7.

A 45-year-old male with end-stage dilative cardiomyopathy was referred for heart transplantation (Htx). Apart from severe heart disease the patient had an unremarkable medical history. Risk factors were heavy smoking and moderate consumption of alcohol. Preoperative screening including a thorough ENT status did not reveal any other risk factor or contraindication for heart transplantation. Htx was performed three months later. Immunosuppressive therapy consisted of triple-drug therapy and induction therapy with antithymocyte globulin. The patient had an uneventful perioperative course. One month after transplantation the patient developed a rapidly growing squamous cell carcinoma of the left tonsil with local metastasis. Because of the rapid growth and size of the tumour surgical treatment was already impossible at that early time. Despite a course of chemotherapy the tumour continued to grow; treatment was changed to radiation therapy resulting in partial remission. Cyclosporine and azathioprine

dosages were reduced at the same time. Nine months following Htx the patient developed a rapidly growing recurrence. As there were no further therapeutic options, immunosuppressive therapy was completely discontinued with the patient's agreement. He died two months later. The rapid tumour growth and its early manifestation following Htx suggest a preexistent occult carcinoma. A more extensive and repetitive preoperative screening in Htx candidates who are heavy smokers should be considered. Author.

**Treatment results of nasopharyngeal cancer—a nationwide survey from Finland.** Kajanti, M., Flander, M., Grenman, R., Heitanen, T., Romppanen, M., Turunen, M., Valavaara, R., Joensuu, H. Department of Oncology, Helsinki University Central Hospital, Finland. *Acta Oncology* (1996), Vol. 35 (6), pp. 697–702.

The nationwide experience of treating nasopharyngeal cancer in Finland during the period 1980–1989 was reviewed. Of the 107 patients included in the present analysis, 13 were treated palliatively only, and three had metastatic disease at their first clinical presentation, whereas the rest ( $n = 91$ ) were treated with radical radiotherapy, of whom, eight patients received adjuvant chemotherapy after radiotherapy. The five-year actuarial survival rates of these 91 patients was 52 per cent, and by the UICC stage they were classified as follows: stage I 75 per cent ( $n = 12$ ), stage II 60 per cent ( $n = 5$ ), stage III 59 per cent ( $n = 34$ ), and stage IV 38 per cent ( $n = 40$ ). According to the Cox's stepwise proportional hazard model the most important factors influencing favourable survival were the total dose of radiotherapy expressed in terms of Biologically Effective Dose (BED) with a time factor, a small size of the primary tumour and a high performance status according to the WHO scale, whereas the most important factors influencing the local control analysis were the total dose of radiotherapy (expressed in BED) and the cervical lymph node status. Author.

**Cytokines and allergic rhinitis.** Fireman, P. Children's Hospital of Pittsburgh, Pa 15213-2583, USA. *Allergy Asthma Procedures* (1996) July-August, Vol. 17 (4), pp. 175–8.

Cytokines that are important in the pathophysiology of allergic diseases are summarized in Table II. The role of certain of these cytokines, especially IL-4 as well as IL-1, IL-2, IL-6, GM-CSF, and TNF-alpha have been documented in nasal biopsies and/or nasal secretions of patients with allergic rhinitis. The improvement of symptoms of allergen rhinitis induced by corticosteroid therapy or immunotherapy were associated with differences in cytokine expression, whereas, steroids decreased IL-4 expression and immunotherapy increased expression of IL-2 and IFN-gamma. These data indicate that these proven therapies most probably are mediated by different mechanisms with different cytokine expression. Author.

**Nasal physiology: neurochemical receptors, nasal cycle, and ciliary action.** Lund, V. J. Institute of Laryngology and Otolaryngology, University College London, United Kingdom. *Allergy Asthma Procedures* (1996) July-August, Vol. 17 (4), pp. 179–84.

The complex interaction of neurotransmitters, vascular supply, and mucociliary function constitute one of the main defense mechanisms of the respiratory tract, modulating airflow and response to noxious assault. One of the main controls of airflow relies upon the modulation of vasodilation and vasoconstriction via the autonomic control of a sinusoid system. In addition to noradrenaline and acetylcholine, an ever-increasing number of neurotransmitters are involved, including neuropeptide Y, vasoactive intestinal peptide, peptide histidine leucine, substance P, and calcitonin gene-related peptide. The existence of a reciprocating cycle of congestion and decongestion has been recognized for over a century, although its exact function is unknown. Recent studies using acoustic rhinometry have demonstrated that the cycle is present in some form in the majority of adults, in children as young as three years, and that it persists after cessation of nasal airflow. It may, however, be overridden or modulated by many environmental and pathological situations. By contrast, the defense function of mucociliary clearance is well-established, and while also subject to environmental influences, relies upon an innate and cyclical pattern of mucus flow from within the sinuses and nasal cavity into the oropharynx. The content of the mucus is fundamental to its protective function and the control of mucociliary clearance intimately related to autonomic activity. Author.

**Learning impairment and allergic rhinitis.** Simons, F. E. Department of Pediatrics and Child Health, Faculty of Medicine, University of Manitoba, Winnipeg, Canada. *Allergy Asthma Procedures* (1996), July-August, Vol. 17 (4), pp. 185–9.

Allergic rhinitis is underestimated as a cause of suffering and diminished quality of life in children and adolescents. If nasal symptoms such as itching, sneezing, rhinorrhea, and congestion are not well controlled during the day, they may contribute to learning problems during school hours. If these symptoms are not well controlled during the night, they may contribute to nocturnal sleep loss, secondary daytime fatigue and learning impairment. Even uncomplicated seasonal allergic rhinitis may be associated with reduced ability to learn, and the likelihood of learning problems may increase in severe perennial rhinitis or in rhinitis associated with complications such as sinusitis or eustachian tube dysfunction and conductive hearing loss. Also, many of the medications used to treat allergic rhinitis may cause central nervous system adverse effects and contribute to learning impairment. For some medications, such as inhaled glucocorticoids and decongestants, the potential effect on central nervous system function and learning has not been tested. For others such as H1-receptor antagonists (antihistamines), well-designed, prospective studies have been performed. The newer relatively nonsedating medications such as terfenadine, astemizole, loratadine, cetirizine, and fexofenadine have less potential to impair central nervous system function and learning than their predecessors. Author.

**Fine mapping of an imprinted gene for familial nonchromaffin paragangliomas, on chromosome 11q23.** Baysal, B. E., Farr, J. E., Rubinstein, W. S., Galus, R. A., Johnson, K. A., Aston-Singh, D., Saha, S., Gollin, S. M., Evans, G. A., James, M. R., Richard, C. W. IIIrd. Department of Human Genetics, The University of Pittsburgh Medical Center, PA 15213–2593, PA. *American Journal of Human Genetics* (1997) January, Vol. 60 (1), pp. 121–32.

Hereditary nonchromaffin paragangliomas (PGL: glomus tumours; MIM 168000) are mostly benign, slow-growing tumours of the head and neck region, inherited from carrier fathers in an autosomal dominant fashion subject to genomic imprinting. Genetic linkage analysis in two large, unrelated Dutch families assigned PGL loci to two regions of chromosome 11, at 11q23 (PGL1) and 11q13.1 (PGL2). We ascertained a total of 11 North American PGL families and confirmed maternal imprinting (inactivation). In three of six families, linkage analysis provided evidence of linkage to the PGL1 locus at 11q23. Recombinants narrowed the critical region to an approximately 4.5-Mb interval flanked by markers D11S1647 and D11S622. Partial allelic loss of strictly maternal origin was detected in five of 19 tumours. The greatest degree of imbalance was detected at 11q23, distal to D11S1327 and proximal to CD3D. Age at onset of symptoms was significantly different between fathers and children (Wilcoxon rank-sum test,  $p < 0.002$ ). Affected children had an earlier age at onset of symptoms in 39 of 57 father-child pairs ( $\chi^2 = 7.74$ ,  $p < 0.006$ ). However, a more conservative comparison of the number of pairs in which a child had > or five years earlier age at onset ( $n = 33$ ) vis-a-vis that of complementary pairs ( $n = 24$ ) revealed no significant difference ( $\chi^2 = 1.42$ ,  $p > 0.2$ ). Whether these data represent genetic anticipation or ascertainment bias can be addressed only by analysis of a larger number of father-child pairs. Author.

**Congenital vocal cord paralysis with possible autosomal recessive inheritance: case report and review of the literature.** Koppel, R., Friedman, S., Fallet, S. Division of Neonatal-Perinatal Medicine, Schneider Children's Hospital, Long Island Jewish Medical Center, New Hyde Park, New York 11040, USA. *American Journal of Medical Genetics* (1996) August 23, Vol. 64 (3), pp. 485–7.

We describe an infant with congenital vocal cord paralysis born to consanguineous parents. While autosomal dominant and X-linked inheritance have been previously reported in this condition, we conclude that the degree of parental consanguinity in this case strongly suggests autosomal recessive inheritance. Although we cannot exclude X-linked inheritance, evidence from animal studies demonstrates autosomal recessive inheritance and provides a possible molecular basis for congenital vocal cord paralysis. Author.

**Effects of organotypic culture on parasympathetic innervation of guinea pig trachealis.** Canning, B. J., Undem, B. J., Karakousis, P. C., Dey, R. D. Johns Hopkins Asthma and Allergy Center, Baltimore, Maryland 21224, USA. *American Journal of Physiology* (1996) November, Vol. 271 (5 Pt 1), pp. L698-706.

Nonadrenergic, noncholinergic (NANC) relaxations of airway smooth muscle are thought to be mediated by vasoactive intestinal peptide (VIP) and nitric oxide (NO). Previous studies of the parasympathetic innervation of guinea pig trachealis suggest that the ganglion neurons mediating NANC relaxations but not cholinergic contractions are associated with the esophagus. In this study, the location of the neurons mediating these responses and their neurochemical phenotype was further assessed. Guinea pig tracheas maintained in organotypic culture for two days with the adjacent esophagus intact displayed cholinergic contractions and NANC relaxations to electrical field stimulation (EFS) as well as VIP and NO synthase (NOS) nerve fibre densities that were similar to those of control tracheas. By contrast, in tracheas cultured without the esophagus, NANC relaxations to EFS were not observed, and VIP and NOS nerve fibre densities were reduced >80 per cent. EFS-induced cholinergic contractions were unaffected by esophagus removal. These results provide further evidence that NANC relaxations are mediated by VIP and NO coreleased from noncholinergic parasympathetic nerve endings derived from neurons intrinsic to the esophagus. Author.

**A survey of emergency airway management in the United Kingdom.** Ratnayake, B., Langford, R. M. St Bartholomew's Hospital, London. *Anaesthesia* (1996) October, Vol. 51 (10), pp. 908-11.

A postal questionnaire aiming to ascertain the availability of cricothyrotomy and transtracheal ventilation equipment, and experience of its use, was sent to all tutors of the Royal College of Anaesthetists in the United Kingdom and Ireland. The response rate was 74.9 per cent. Almost half of the respondents had experience of cricothyrotomy. The 'Portex Minitrach' (58.6 per cent) was the most commonly used preformed device, followed by the 'William-Cook' cannula (8.5 per cent). The 14-G intravenous cannula (21.1 per cent) was the most frequently improvised cricothyrotomy device. Seventy-six per cent of all theatres had equipment available for such emergency airway management. Sixty five per cent of Portex-Minitrach insertions resulted in complications, more than half of which were serious (total failure to cannulate (17.1 per cent), multiple attempts (20.7 per cent), pneumothorax (8.5 per cent) and severe bleeding (7.3 per cent)). Major complication rates of the 'William-Cook' device and 14-G intravenous cannula were 27.3 per cent and 22.2 per cent respectively. Seventy five per cent of patients reported had eventual successful airway management with full recovery, while 9.6 per cent had partial recovery and 15.4 per cent died. Formal training of emergency airway management was practised in 14.2 per cent of anaesthetic departments, while 73.6 per cent had informal training. Twelve per cent of the departments did not specifically teach their trainees the skill of emergency airway management. Author.

**Sixteen years of croup in a Western Australian teaching hospital: effects of routine steroid treatment.** Geelhoed, G. C. Emergency Department Princess Margaret Hospital for Children, Perth, Australia. *Annals of Emergency Medicine* (1996) December, Vol. 28 (6), pp. 621-6.

**STUDY OBJECTIVE:** To describe the experience of croup at Princess Margaret Hospital for Children (PMH), the only tertiary pediatric hospital in Western Australia, from 1980 through 1995 with reference to the introduction of routine steroid treatment in the ICU in 1989, in the general hospital wards from 1989 through 1993, and in the emergency department observation ward in 1993. **METHODS:** Information on the numbers of children with croup presenting to PMH from 1980 through 1985 who were admitted to the general wards, the ICU, and the observation ward; intubation rate; and length of stay was obtained from a combination of state health records, hospital statistics, logbooks, and computer records. **RESULTS:** The numbers of children who presented to and were admitted to PMH with croup were similar for all years of the study

period. Since 1989, the annual number of children intubated (1980-1989 average, eight; 1990-1995 average, four) and total ICU days for croup (1980-1989 average, 129; 1990-1995 average, 24) has decreased dramatically. The annual percentage of children transferred to the ICU (1980-1989 average, 11.6 per cent; 1994-1995 average, 2.6 per cent) and the average length of stay for PMH (1980-1989 average, 2.03 days; 1994-1995 average, 1.1 days) decreased every year from 1989 through 1994, coincident with increasing use of steroids for croup in the general wards. The change of policy from no steroids to compulsory use of steroids in the observation ward coincided with an increase in the percentage of children discharged home directly from the observation ward (to 97 per cent from 80 per cent). **CONCLUSION:** The introduction of steroids at PMH coincided with a dramatic decrease in measures of severity for children admitted to hospital with mild to severe croup. All children hospitalized with croup should receive steroid therapy. Author.

**Treatment of earlobe keloids with surgery plus adjuvant intralesional verapamil and pressure earrings.** Lawrence, W. T. Division of Plastic Surgery, University of Massachusetts Medical Center, Worcester 01655, USA. *Annals of Plastic Surgery* (1996) August, Vol. 37 (2), pp. 167-9.

Treatment for keloids remains less than ideal. Previous discouraging results prompted a change in the author's standard treatment for keloids to surgery plus adjuvant intralesional verapamil and pressure earrings. Intralesional verapamil (2.5 mg per millilitre) was administered seven to 14 days after keloid removal and again approximately one month after removal when possible. Between 0.5 ml and 2.0 ml was administered each time, depending on the size of the keloid. Patients were instructed to wear pressure earrings essentially continuously for a minimum of six months after excision. Thirty-five African American patients with 45 earlobe keloids were treated with this regimen. Information regarding recurrence was obtained by follow-up, mail, or phone call from 31 patients (89 per cent) with 40 keloids (89 per cent). Minimum follow-up for inclusion was six months and average follow-up was 28 months. Twenty-two keloids (55 per cent) in 16 patients (52 per cent) were cured by this treatment modality. There were no significant differences in recurrence rates related to sex, age, keloid size, length of time the keloid was present, how long the ears had been pierced, how many verapamil injections were received. There was a trend toward an increased recurrence rate for previously treated keloids. Though not optimal, this regimen is superior to some previously evaluated regimens. Author.

**Audioscan: a high-definition audiometry technique based on constant-level frequency sweeps—a new method with new hearing indicators.** Meyer-Bisch, C. Except, International Consultants, Nancy, France. *Audiology* (1996), March-April, Vol. 35 (2), pp. 63-72.

The resolution of data given by traditional fixed-frequency tone audiometry is limited to the number of frequencies tested. Numerical electronics now allow us to bypass the difficulties of controlled-level frequency sweeping. The Audioscan method gives a detailed audiometric curve and is designed to detect even the narrowest notches. The Audioscan method includes the possibility of defining hearing loss indicators containing more information and of increasing the diagnostic power of the audiometry. The applications both in the clinic and in screening are highly promising. Author.

**Epidemiological evaluation of hearing damage related to strongly amplified music (personal cassette players, discotheques, rock concerts)—high-definition audiometric survey on 1364 subjects.** Meyer-Bisch, C. Except, International Consultants, Nancy, France. *Audiology* (1996) May-June, Vol. 35 (3), pp. 121-42.

Listening to loudly amplified music can be responsible for hearing damage of the same nature as that caused by industrial noise. This study of the repercussions on hearing is based on isolating different types of risks (PCPs (personal cassette players), discotheques and rock/variety concerts) using 'pure' exposed

groups matched subject to subject for age and sex to control groups. Hearing is studied with high-definition audiometry and an 'auditory suffering' indicator. Although discotheque patrons present on average no audiometric damage (211 subjects), a statistically significant increase of average hearing thresholds is found in young people using a PCP > seven h/week (54 subjects) compared to those using one two to seven h/week (195 subjects) and compared to their matched controls. The same is true for subjects who go to rock concerts at least twice a month (87 subjects) compared to their matched controls. Signs of auditory suffering are found in two subjects out of three in this last exposure group, as opposed to 12 per cent of the controls. Measures to conserve young people's hearing must include a reduction of sound levels, the education of music and entertainment professionals, and making PCP users better informed. Author.

**Influence of acquisition parameters on the measurement of click evoked otoacoustic emissions in neonates in a hospital environment.** Welch, D., Greville, K. A., Thorne, P. R., Purdy, S. C. National Audiology Centre, Remuera, Auckland, New Zealand. *Audiology* (1996) May-June, Vol. 35 (3), pp. 143-57.

There is much interest in the introduction of a universal neonatal hearing screening programme. Screening programmes using high-risk criteria have been used for some time, but 50 per cent of deaf and hearing-impaired neonates are not identified because they are not classified as high risk for hearing impairment at birth. Otoacoustic emission (OAE) measurement is widely regarded as a technique likely to be suitable for universal hearing screening. To examine this, otoacoustic emissions were measured from 351 neonate ears at a large maternity hospital. Of particular interest were the practicalities of recording OAE in a hospital environment, the establishment of an appropriate age at which screening should be performed on neonates and investigation of the relative advantages of different recording techniques. Main findings were: (1) low OAE levels relative to noise during the first 24 to 46 hours post partum; (2) lower OAE signal to noise levels in low frequencies irrespective of age; (3) increase of overall signal to noise ratio in frequencies above 1 kHz through the use of a shortened response window; and (4) OAE recording could be performed easily in mothers' hospital rooms prior to discharge. Author.

**Motion sickness susceptibility to optokinetic rotation correlates to past history of motion sickness.** Hu, S., Glaser, K. M., Hoffman, T. S., Stanton, T. M., Gruber, M. B. Department of Psychology, Humboldt State University, Arcata, CA 95521, USA. *Aviation Space and Environmental Medicine* (1996) April, Vol. 67 (4), pp. 320-4.

**PURPOSE:** This study investigated correlations between motion sickness susceptibility to a rotating optokinetic drum and past history of motion sickness. **METHOD:** There were 49 subjects who filled out a questionnaire on motion sickness history (MSH) who participated in the experiment. Each subject sat in an optokinetic drum for a 12-min baseline and a 12-min drum rotation period. Subjects' motion sickness symptoms (MSS) and electrogastrograms (EGG's) were measured. **RESULTS:** There were significant correlations between MSH scores and MSS scores during drum rotation ( $r=0.5392$ ,  $p<0.001$ ), and between MSH scores and EGG four to nine cycles per minute (cpm) spectral intensity ratios between drum rotation and baseline periods ( $r=0.5320$ ,  $p<0.001$ ). Further analysis indicated that the mean MSS scores during the drum rotation period were 11.50 for the top 33 per cent MSH scorers, 4.18 for the middle 34 per cent MSH scorers, and 3.63 for the bottom 33 per cent MSH scorers. The mean EGG four to nine cpm spectral intensity ratios between drum rotation and baseline periods were 2.62 for the top 33 per cent MSH scorers, 1.44 for the middle 34 per cent MSH scorers, and 1.21 for the bottom 33 per cent MSH scorers. **CONCLUSION:** These results indicated that past history of motion sickness correlates with severity of motion sickness provoked by optokinetic rotation. Author.

**Low-cost high-resolution fast spin-echo MR of acoustic schwannoma: an alternative to enhanced conventional spin-echo MR? (see comments).** Allen, R. W., Harnsberger, H. R., Shelton, C., King, B., Bell, D. A., Miller, R., Parkin, J. L., Apfelbaum, R. I., Parker, D. Department of Radiology, University of Utah Health

Sciences Center, Salt Lake City 84132, USA. *American Journal of Neuroradiology* (1996) August, Vol. 17 (7), pp. 1205-10. Comment in: *American Journal of Neuroradiology* (1996) August, Vol. 17 (7), pp. 1226-8.

**PURPOSE:** To determine whether unenhanced high-resolution T2-weighted fast spin-echo MR imaging provides an acceptable and less expensive alternative to contrast-enhanced conventional T1-weighted spin-echo MR techniques in the diagnosis of acoustic schwannoma. **METHODS:** We reviewed in a blinded fashion the records of 25 patients with pathologically documented acoustic schwannoma and of 25 control subjects, all of whom had undergone both enhanced conventional spin-echo MR imaging and unenhanced fast spin-echo MR imaging of the cerebellopontine angle/internal auditory canal region. The patients were imaged with the use of a quadrature head receiver coil for the conventional spin-echo sequences and dual three-inch phased array receiver coils for the fast spin-echo sequences. **RESULTS:** The size of the acoustic schwannomas ranged from two to 40 mm in maximum dimension. The mean maximum diameter was 12 mm, and 12 neoplasms were less than 10 mm in diameter. Acoustic schwannoma was correctly diagnosed in 98 per cent of the fast spin-echo images and on 100 per cent of the enhanced conventional spin-echo images. Statistical analysis of the data using the kappa coefficient demonstrated agreement beyond chance between these two imaging techniques for the diagnosis of acoustic schwannoma. **CONCLUSIONS:** There is no statistically significant difference in the sensitivity and specificity of unenhanced high-resolution fast spin-echo imaging and enhanced T1-weighted conventional spin-echo imaging in the detection of acoustic schwannoma. We believe that the unenhanced high-resolution fast spin-echo technique provides a cost-effective method for the diagnosis of acoustic schwannoma. Author.

**Hemangiomas of the head, neck and chest with associated vascular and brain anomalies: a complex neurocutaneous syndrome.** Pascual-Castroviejo, I., Viano, J., Moreno, F., Palencia, R., Martinez-Fernandez, V., Pascual-Pascual, S. I., Martinez-Bermejo, A., Garcia-Penas, J. J., Roche, M. C. *American Journal of Neuroradiology* (1996) March, Vol. 17 (3), pp. 461-71.

**PURPOSE:** To describe the vascular and nonvascular intracranial and extracranial anomalies associated with hemangiomas and vascular malformations of the face, neck, and/or chest. **METHODS:** Seventeen patients had a physical examination and imaging studies consisting of one or more of the following: pneumoencephalography, conventional carotid and vertebral arteriography, CT, MR imaging, and MR angiography. **RESULTS:** Conventional arteriography revealed persistence of the trigeminal artery in five cases, absence of internal or external carotid and/or vertebral arteries in 11 cases, persistence of intervertebral arteries in one case, deformities of the aortic arch in three cases, and anomalies of the intracranial arteries in three cases. MR angiography revealed persistence of the trigeminal artery in one case in which conventional arteriography failed to show the malformation, and permitted visualization of narrowing of the intracranial arteries. CT and MR imaging showed a cerebellar anomaly in eight cases and cerebral cortical dysplasia with cerebral hemispheric hypoplasia in one case. Vascular and nonvascular anomalies appeared ipsilateral to the external vascular abnormalities in most cases. **CONCLUSION:** This study demonstrates the association of cutaneous angiomas with anomalies affecting intracranial and extracranial arteries, the cerebellum, and, less frequently, the cerebral hemispheres and aortic arch. This association constitutes a relatively frequent neurocutaneous disorder, which we call the cutaneous hemangioma-vascular complex syndrome. Author.

**Trisacryl gelatin microspheres for therapeutic embolization, II: preliminary clinical evaluation in tumours and arteriovenous malformations.** Beaujeaux, R., Laurent, A., Wassef, M., Casasco, A., Gobin, Y. P., Aymard, A., Rufenacht, D., Merland, J. J. Laboratory of Interventional Neuroradiology, University of Paris, France. *American Journal of Neuroradiology* (1996) March, Vol. 17 (3), pp. 541-9.

**PURPOSE:** To evaluate an embolic agent that is precisely calibrated, perfectly spherical in shape, and soft but nonresorbable for use in the embolization of vascular disease of the head, neck and spine in humans. **METHODS:** We used supple, hydrophilic, and calibrated trisacryl gelatin microspheres 200, 400, 600, 800 and 1000 microns in diameter for superselective embolization in 105

patients (27 tumours, 14 facial arteriovenous malformations (AVMs), 37 spinal cord AVMs, 21 cerebral AVMs, and six miscellaneous diseases). We used particles in 200 to 600 microns in diameter for tumours and for facial AVMs, particles 400 to 600 microns in diameter for spinal cord AVMs, and particles over 1000 microns in diameter for cerebral AVMs. **RESULTS:** Delivery of the embolic material was easy: microspheres did not aggregate and catheters did not become obstructed by particles. It was possible to control the embolization through precise accounting of the amount of microspheres and matching of the particle size to the size of the pathologic vascular network. **CONCLUSION:** The microspheres are easy to use and allow precise control of the embolization procedure. Their physical characteristics make them a safe embolic agent. Author.

**The whispered voice: the best test for screening for hearing impairment in general practice?** Eekhof, J. A., de Bock, G. H., de Laat, J. A., Dap, R., Schaapveld, K., Springer, M. P. Department of General Practice, Leiden University, Netherlands. *British Journal of General Practice* (1996) August, Vol. 46 (409), pp. 473-4.

Hearing loss is an important health problem in the elderly which sometimes leads to social isolation. In a study with 62 patients, the diagnostic value of four simple tests for screening for hearing loss in general practice was examined. When paying attention to the loudness of the whispering, the whispered voice test can be a valuable test for assessment of hearing loss in general practice. Author.

**Deafness and cholesteatoma complicating fracture of the mandibular condyle.** Langton, S. G., Saeed, S. R., Musgrove, B. T., Ramsden, R. T. Maxillofacial Unit, Manchester Royal Infirmary, Oxford, UK. *British Journal of Maxillofacial Surgery* (1996) August, 34 (4), pp. 286-8.

A case of posterior fracture-dislocation of the mandibular condyle which resulted in conductive deafness and cholesteatoma is presented. Initial management by condylectomy improved auditory canal patency but failed to prevent the development of cholesteatoma, necessitating mastoid surgery. Although major complications following fractures of the condyle are not common the need to consider the possibility of damage to the ear in such fractures is emphasized. Author.

**Intranasal administration of neuropeptide Y in man: systemic absorption and functional effects.** Lacroix, J. S., Ricchetti, A. P., Morel, D., Mossimann, B., Waeber, B., Grouzmann, E. Department of Otorhinolaryngology, University Hospital, Geneva, Switzerland. *British Journal of Pharmacology* (1996) August, Vol. 118 (8), pp. 2079-84.

Exogenous neuropeptide Y (NPY, 10 nmol, 50 nmol and 100 nmol) and its vehicle (NaCl 0.9 per cent) were administered in a double blind, randomized and controlled manner by intranasal spray in seven healthy volunteers. Variations of plasma NPY concentration over time were measured during 120 min. Forty min after the administration of 50 nmol and 100 nmol of exogenous NPY, plasma NPY increased from 5.5 1.1 pM to 9.8 2.3 pM ( $p < 0.05$ ) and from 9.06 5.1 pM to 20.8 6.16 pM ( $p < 0.001$ ), respectively. There was no significant modification of the mean arterial blood pressure and no subjective discomfort was reported. Nasal airway resistance (NAR) was measured by anterior rhinomanometry and was reduced by 25 three per cent and 32 five per cent after the spray of 50 nmol and 100 nmol, respectively, for about 90 min. Double-blind, randomized, placebo-controlled and three-way crossover design experiments were performed in eight healthy volunteers to evaluate the influence of intranasal pretreatment with NPY (20 nmol) and the mixed alpha one/alpha 2-adrenoceptor agonist oxymetazoline (20 nmol) on the functional effects of subsequent local irritation evoked by capsaicin ( $3.3 \times 10^{-4}$  mol). Subjective evaluation of NAR and local intensity of discomfort were evaluated by means of visual analogue scale. Nasal secretions were collected and objective NAR was recorded by rhinomanometry. Subjective NAR, nasal secretions and rhinomanometry recordings were not modified by intranasal application of saline, NPY or oxymetazoline. Subjective nasal obstruction, local discomfort, nasal secretions and NAR increase evoked by capsaicin were markedly reduced by NPY

pretreatment ( $p < 0.05$ ) when compared to saline or oxymetazoline. It is concluded that intranasal application of exogenous NPY has very low systemic absorption but induced long lasting nasal vasoconstriction without cardiovascular effects. Pretreatment of the nasal mucosa with exogenous NPY reduces both secretagogue and vasodilator responses to subsequent application of capsaicin. Author.

**Surgical treatment of lagophthalmos in facial palsy: ear cartilage graft for elongating the levator palpebrae muscle.** Inigo, F., Chapa, P., Jimenez, Y., Arroyo, O. Department of Plastic and Reconstructive Surgery, Hospital General Dr Manuel Gea Gonzalez, Mexico. *British Journal Plastic Surgery* (1996) October, Vol. 49 (7), pp. 452-6.

Ocular exposure, conjunctival irritation and corneal keratitis are disturbing consequences of facial paralysis with lagophthalmos. Many techniques have been described for correcting this condition. A new method for decreasing the palpebral fissure is presented. An ear cartilage graft is interposed between the tarsal plate and the levator palpebrae superioris muscle. Twelve patients with paralysis of the orbicularis oculi muscle, as assessed by electromyography, were treated with this technique. The palpebral fissure was decreased by two to three mm in all cases. Eleven patients showed significant improvement of their eye symptoms. One patient, in whom the palpebral fissure could not be closed sufficiently to protect the eye, required additional lengthening by 4 mm of the cartilage graft and a lateral tarsorrhaphy. Author.

**Gustatory sweating in a free flap.** Dunaway, D. J., McLean, N. R. Department of Plastic and Reconstructive Surgery, Newcastle General Hospital, Newcastle upon Tyne, UK. *British Journal Plastic of Surgery* (1996) October, Vol. 49 (7), pp. 471-2.

A case of Frey's syndrome arising in a free radical forearm flap used to reconstruct a defect in the parotid region is reported. To our knowledge, Frey's syndrome, although common following parotidectomy, has not been reported in a free flap. It is possible that parasympathetic secretomotor fibres gained access to the fasciocutaneous flap via the cutaneous nerve stumps in its edge, resulting in gustatory sweating. Author.

**Chondrodermatitis nodularis chronica helix et antihelices.** Munnoch, D. A., Herbert, K. J., Morris, A. M. Department of Plastic Surgery, Dundee Royal Infirmary, UK. *British Journal Plastic of Surgery* (1996) October, Vol. 49 (7), pp. 473-6.

A retrospective study of 50 patients (25 male, 25 female) suffering from chondrodermatitis nodularis chronica is presented. There was equal distribution between male and female, with the nodule being situated on the helix in 36 cases (23 male, 13 female), and on the antihelix in 18 cases (four male, 14 female). Four patients had bilateral lesions. All the patients complained of severe pain in the affected ear when they slept on it at night. Of the 54 ears in this study, 23 had undergone previous surgery for the complaint. These recurrences occurred when either skin alone, or a disproportionately large piece of skin relative to cartilage, was excised. A treatment technique is described involving minimal skin excision combined with extensive cartilage resection. There has been no recurrence following our technique and postoperative deformity has been minimal. Author.

**Upper oesophageal sphincter function during general anaesthesia.** McGrath, J. P., McCaul, C., Byrne, P. J., Walsh, T. N., Hennessy, T. P. University Department of Surgery, St James's Hospital, Dublin, Ireland. *British Journal Surgery* (1996) September, Vol. 83 (9), pp. 1276-8.

The effect of anaesthesia on the upper oesophageal sphincter response to acid in the distal oesophagus and hypopharynx, and the effect of atracurium besylate on acid migration into the hypopharynx, was studied in 102 patients undergoing elective varicose vein surgery. Group 1 ( $n = 48$ ) received a general anaesthetic and the muscle relaxant atracurium besylate whereas group 2 ( $n = 54$ ) received a general anaesthetic without relaxation. Upper oesophageal sphincter tone was significantly lower in patients receiving muscle relaxants ('sphincter output', eight

versus 14,  $p < 0.05$ ). Sixteen patients (16 per cent) had reflux into the distal oesophagus during anaesthesia (nine in group 1 and seven in group 2,  $p$  not significant), of whom seven had reflux to the hypopharynx. There was no difference in incidence of hypopharyngeal acid exposure between groups. Upper oesopha-

geal sphincter tone did not alter in response to reflux into the distal oesophagus or hypopharynx in either group. The upper oesophagus sphincter fails to protect the hypopharynx under general anaesthesia even if patients do not receive a muscle relaxant. Author.