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Abstract Selection

Cephalexin and penicillin in the treatment of group A beta-hemolytic streptococcal throat infections. Disney, F. A., Dillon, H., Blumer, J. L., Dudding, B. A., McLinn, S. E., Nelson, D. B., Selbst, S. M. Department of Pediatrics, Elmwood Pediatric Group, Rochester, NY. *American Journal of Diseases in Children* (1992) Nov, Vol. 146 (11), pp. 1324–7.
OBJECTIVE—To determine whether cephalexin or penicillin is more effective in the treatment of group A beta-hemolytic streptococcal tonsillopharyngitis in children. DESIGN—Randomized, double-blind, crossover study conducted from 1981 to 1984. SETTING—Seven pediatric practices in the United States, including private offices and pediatric clinics. PARTICIPANTS—Of the 654 patients, 525 children and adolescents with clinical evidence of tonsillitis or pharyngitis and throat cultures positive for group A beta-hemolytic streptococcal infection were evaluable. Eighty per cent of patients completed the study; none were withdrawn because of adverse reaction. SELECTION CRITERIA—Children and adolescents who had acute illness suggestive of group A beta-hemolytic streptococcal infection were enrolled in the study. Treatment was continued if the throat culture was positive for group A beta-hemolytic streptococcal infection. INTERVENTIONS—Four doses of cephalexin and penicillin (27 mg/kg per day) were prescribed to be taken on an empty stomach for 10 days. MEASUREMENTS/MAIN RESULTS—Symptomatic clinical failure occurred in 8 per cent of penicillin-treated patients and in three per cent of cephalexin-treated patients. Bacteriologic failure rates were 11 per cent in the penicillin treatment group and seven per cent in the cephalexin treatment group. The combined treatment failure rate of clinical relapse plus asymptomatic bacteriologic failure was 19 per cent in the penicillin treatment group and 10 per cent in the cephalexin treatment group. Paired antistreptolysin-O titre increased significantly in 62.3 per cent of penicillin-treated patients and in 64.2 per cent of cephalexin-treated patients. Similarly, anti-DNase B titres rose 52.2 per cent in penicillin-treated patients and 52.4 per cent in cephalexin-treated patients. CONCLUSION—Cephalexin is a more effective drug than penicillin in the treatment of group A beta-hemolytic streptococcal throat infection in children. Author.

Clinical variability and genetic heterogeneity within the Acadian Usher population. Smith, R. J., Pelias, M. Z., Daiger, S. P., Keats, B., Kimberling, W., Hejtmancik, J. -F. University of Iowa Hospitals and Clinics, Iowa City. *American Journal of Medical Genetics* (1992) August 1, Vol. 43 (6), pp. 964–9.
A number of Usher syndrome (USH) families are found among the French-Acadians living in southwestern Louisiana. These families are descended from a few common ancestors, suggesting that USH may be homogeneous within this ethnic group. However, we report distinct phenotypic variability. Based on differences in psychomotor development and tests of auditory and vestibular function, Acadian individuals with both USH type 1 and type 2 can be identified. One additional family, with unusual findings, represents a third clinical phenotype. Linkage data strongly support these clinical observations. Author.

Branchio-oto-renal syndrome: further delineation of an underdiagnosed syndrome. Chitayat, D., Hodgkinson, K. A., Chen, M. F., Haber, G. D., Nakishima S., Sando, I. Department of Peidatrics, Montreal Children's Hospital, McGill University, Quebec, Canada. *American Journal of Medical Genetics* (1992) August 1, Vol. 43 (6), pp. 970–5.
We report on a woman who was diagnosed with branchio-oto renal (BOR) syndrome after two pregnancies complicated by oligohydramnios due to renal hypoplasia and agenesis. Both babies died neonatally of pulmonary hypoplasia. Histopathology of the temporal bones of the second child showed marked immaturity of the middle ear cleft, ossicles, facial nerve and canal, and cochlear nerve. Maternal renal ultrasound study was normal although intravenous pyelography indicated renal hypoplasia. The frequency of BOR syndrome among cases of recurrent fetal renal hypoplasia/dysplasia or agenesis is unknown, and parental renal ultrasonography may not identify a heritable renal defect. Investigations should include a family history, and examination of relatives to look for preauricular pits, lacrimal duct stenosis, and branchial fistulae and/or cysts. Hearing studies and IVP may be indicated. Author.

Basaloid squamous cell carcinoma of the head and neck. A clinicopathologic and immunohistochemical study of 40 cases. Banks, E. R., Frierson, H. F. Jr., Mills, S. E., George, E., Zarbo, R. J., Swanson, P. E. Department of Pathology, University of Kentucky, Lexington. *American Journal of Surgical Pathology* (1992) October, Vol. 16 (10), pp. 939–46.
In this study of 40 cases of basaloid squamous cell carcinoma, 83 per cent arose in the pyriform sinus, base of tongue, tonsil, and larynx. The 35 men and five women ranged in age from 27 to 88 years (median 62). In patients for whom social habits were recorded, 24 of 26 patients were smokers and 22 of 25 drank ethanol. Most presented with stage III or IV disease. Twenty-seven patients had regional metastases at the time of presentation and 15 developed distant metastases. Seventeen patients died with disease (median survival 18 months). The tumours were composed of moderately pleomorphic basaloid cells forming nests, cords, and frequent cribriform patterns. Squamous dysplasia of surface mucosa, focal squamous differentiation within invasive basaloid squamous cell carcinoma, or foci of conventional squamous cell carcinoma were present, alone or in combination. All studied neoplasms were immunohistochemically positive for keratins with the 34 beta E12 antibody. Approximately 80 per cent were immunoreactive using AE1/AE3 or CAM 5.2. Epithelial membrane antigen, carcinoembryonic antigen, and S100 protein were found in 83, 53 and 39 per cent, respectively, of the cases. Diffuse, weak immunoreactivity for neuron-specific enolase was seen in 75 per cent of tumours. Synaptophysin, chromogranin, muscle-specific actin, and glial fibrillary acidic protein were absent. Basaloid squamous cell carcinoma has been confused with adenoid cystic carcinoma and small cell undifferentiated carcinoma, but is usually distinguishable in routine hematoxylin and eosin-stained sections, or, in rare problematic cases, with the aid of immunohistochemical studies. Distinction is warranted because the biologic behaviour of basaloid squamous cell carcinoma differs from that of both of these lesions. Author.

Regurgitation and oesophageal rupture with cricoid pressure: a cadaver study. Vanner, R. G., Pryle, B. J. Department of Anaesthetics, St Thomas' Hospital, London. *Anaesthesia* (1992) September, Vol. 47 (9), pp. 732–5.
The efficacy of cricoid pressure was studied in ten adult cadavers. The oesophageal pressure that would result in regurgitation during measured values of cricoid pressure was determined. Oesophageal pressure, recorded by a 2 mm diameter oesophageal tube, was increased by oesophageal distension with saline, and incremental levels of cricoid force, 20, 30 and 40 Newtons, were applied with a cricoid yoke. With each ten Newton increments of cricoid force there was a significant rise in the oesophageal pressure required to provoke regurgitation ($P<0.01$). Thirty Newtons of cricoid force prevented regurgitation of saline in all cadavers with oesophageal pressures of up to 40 mmHg. Rupture of the oesophagus occurred in three cadavers: one at 30 and two at 40 Newtons of cricoid force, but there was no rupture at 20 Newtons of cricoid force. In the other seven cadavers oesophageal pressures were also studied with a

4.6 mm diameter (14 FG) oesophageal tube, which did not reduce the efficacy of cricoid pressure in preventing regurgitation. Author.

Effect of partial neuromuscular blockade on intraoperative electromyography in patients undergoing resection of acoustic neuromas. Lennon, R. L., Hosking, M. P., Daube, J. R., Welna, J. P. Department of Anesthesiology, Mayo Clinic, Rochester, Minnesota, 55905. *Anesthesia and Analgesia* (1992) November, Vol. 75 (5), pp. 729–33.
Intraoperative electromyographic monitoring of the facial nerve during acoustic neuroma excision provides early detection of nerve injury and improved outcome. To determine whether a useful level of peripheral neuromuscular blockade could be achieved without compromise of facial electromyographic monitoring, we studied ten patients undergoing resection of acoustic neuroma. Facial nerve monitoring was accomplished by placement by wire electrodes in the orbicularis oris, orbicularis occuli, and mentalis muscles. Peripheral neuromuscular blockade was assessed by recording unprocessed hypothenar compound muscle action potentials (CMAPs). After induction of anesthesia, an infusion of atracurium (1.0 micrograms kg-1.min-1) accompanied by a bolus dose of 50 micrograms/kg was administered. The infusion was then increased in increments of 0.5 micrograms.kg-1.min-1 until a 50 per cent reduction in hypothenar single-twitch CMAP was obtained. Facial nerve function was continuously monitored by comparison of facial CMAPs produced by stimulation of the nerve proximal and distal to the tumour bed. The mean (± SD) infusion rate of atracurium was 2.55 ± 0.75 micrograms.kg-1.min-1. Decrements in facial nerve CMAPs were detected in six of ten patients, and all demonstrated moderate to severe facial nerve dysfunction. In no patient was an unexpected deficit present postoperatively. Moderate degrees of peripheral neuromuscular blockade can be achieved without compromising facial nerve electromyographic monitoring. Author.

Budesonide in grass pollen rhinitis. Norman, P. S., Creticos, P. S., Tobey, R., Proud, D. G., Kagey-Sobotka, A., Meyers, D. A., Persson, T. Johns Hopkins Asthma and Allergy Centre, Baltimore, MD 21224. *Annals of Allergy* (1992) October, Vol. 69 (4), pp. 309–16.
To determine the relative efficacy, to compare the incidence of adverse experiences, and to assess the systemic glucocorticoid effect of nasal preparations of budesonide, 200 micrograms bid, and placebo, 50 adult patients with seasonal allergic rhinitis due to grass pollen were studied in a stratified, double-blind parallel group design. After a two-week baseline period, budesonide nasal spray, 100 microgram per nostril twice a day, was compared with placebo nasal spray over a four-week treatment period. Supplementary treatment with chlorpheniramine, 4-mg tablets, was permitted when necessary to control symptoms. Daily symptom and medication diaries were kept by the patients. Investigator assessments of symptoms and side effects were made at clinic visits at two-week intervals. At baseline and again towards the end of the study, blood samples were drawn for the determination of plasma cortisol levels and 24-hour urine samples collected for the measurement of 17-hydroxycorticosteroid output. Of the 24 men and 26 women entering, 49 completed the study. Symptom scores for sneezing, stuffy nose, and nasal secretion all decreased dramatically from baseline when budesonide treatment was started. The decrease in symptoms was greater for budesonide than for placebo ($P<0.001$). There was no difference between budesonide and placebo with regard to eye itch and rescue medication used. Morning nasal washes were taken during the grass season before treatment was started and 16 to 17 days after. They showed a significant decrease in TAME esterase levels in secretions in the budesonide treated patients ($P = 0.03$) but not in the placebo-treated patients. Author.

Pericardial repair of a tracheal laceration during transhiatal esophagectomy. Gorenstein, L. A., Abel, J. G., Patterson, G. A. Division of Thoracic Surgery, University of Toronto, Ontario, Canada. *Annals of Thoracic Surgery* (1992) October, Vol. 54 (4), pp. 74–6.
Transhiatal esophagectomy has recently been popularized for both benign and malignant esophageal disease. While we were performing a transhiatal esophagectomy for a squamous cell cancer of the upper third of the esophagus, a tear in the membranous trachea near the carina occurred. This was repaired through the cervical incision with a free pericardial patch. This solution to a potentially catastrophic complication of transhiatal esophagectomy gave a satisfactory result without early or late postoperative respiratory complications. Author.

Reliability and effectiveness of screening for hearing loss in high risk neonates. McClelland, R. J., Watson, D. R., Lawless, V., Houston, H. G., Adams, D. Department of Mental Health, Queen's University, Belfast. *British Medical Journal* (1992) March 28, Vol. 304 (6830), pp. 806–9.
OBJECTIVE—To establish the reliability and effectiveness of screening for hearing loss by brainstem auditory evoked potential testing in high risk neonates. DESIGN—Seven year investigation of newborn babies admitted to a special care baby unit and monitored through a regional children's audiology unit. SETTING—Special care baby unit and children's audiology department, Belfast. SUBJECTS—405 neonates admitted to the baby unit, during 1 October 1982 to 31 March 1987. MAIN OUTCOME MEASURES—Presence of hearing impairment, type and severity of hearing impairment, mortality. RESULTS—85 children failed the screening test, 62 of whom were followed up. Five children had severe bilateral sensorineural impairment and 12 had conductive impairment requiring surgical intervention. A further 18 had severe neurological disorder detected. The sensitivity of screening was 100 per cent and specificity was 88 per cent. If the procedure was introduced into routine clinical practice the mean age at diagnosis for all children with severe perinatal hearing impairment would be 11 (median 1) months. The mean age at diagnosis with the health visitor screening service was 23 (19) months (difference ten months, 95 per cent confidence interval six to 16 months; $P<0.0001$). CONCLUSION—Screening for hearing loss in high risk neonates is highly reliable and cost effective. It also provides valuable neurophysiological information. Routine testing of these infants would result in over half of all children with severe bilateral perinatal sensorineural hearing impairment being identified by two months of age. This would make an important contribution to the habilitation of this socially, emotionally, and educationally vulnerable group. Author.

Asymptomatic temporal lobe injury after radiotherapy for nasopharyngeal carcinoma: incidence and determinants. Leung, S. F., Kreel, L., Tsao, S. Y. Department of Clinical Oncology, Chinese University of Hong Kong. *British Journal of Radiology* (1992) August, Vol. 65 (776), pp. 710–4.
Computed tomography (CT) scans were performed on a cohort of 60 patients for detection of temporal lobe injury (TLI) at 1–3.5 years after radiation therapy for nasopharyngeal carcinoma. Nine cases of TLI were identified, five of which were asymptomatic. The earliest case of asymptomatic TLI was found at 2.2 years after radiation therapy and the earliest symptomatic case at 2.3 years. A significantly higher incidence of TLI was found in patients with decreased temporal lobe shielding consequent to omitted eyeshield to the anterior photon beam and in patients treated with a hyperfractionation schedule giving 67.2 Gy in 42 fractions in six weeks. The incidence in these subgroups at 2–3.5 years after radiation therapy was 56 per cent (5/9 patients) and 35 per cent (8/23 patients), respectively. No patient in this study had TLI in the absence of these two factors. The implications of the results are discussed. Author.

The prognostic value of Ki-67 antigen in non-Hodgkin lymphoma of Waldeyer ring and the nasal cavity. Yamanaka, N., Harabuchi, Y., Kataura, A. Department of Otolaryngology, Sapporo Medical College, Japan. *Cancer* (1992) November 1, Vol. 70(9), pp. 2342–9.
BACKGROUND. A monoclonal antibody, Ki-67, recognizes an antigen expressed in all phases of the cell cycle, except G0, and can be used as a simple histologic marker of cell proliferation. To assess the prognostic value of the growth fraction in non-Hodgkin lymphoma of Waldeyer ring (W-NHL) and the nasal cavity (N-NHL), the authors applied Ki-67 immunostaining combined with image analysis on such lymphomas. METHODS. The authors studied 29 patients (18 with W-NHL and 11 with N-NHL), applying Ki-67 to frozen sections. The number of Ki-67-positive cells in a unit area (0.044 mm^2), as an indicator of proliferative activity, and the mean area per Ki-67-positive cell (microns 2), as an indicator of DNA content, were measured by the image processing system. RESULTS. High-grade lymphomas showed a significantly larger number of Ki-67-positive cells than intermediate-grade lymphomas

(102.5 ± 21.6 in high-grade and 46.8 ± 8.92 in intermediate-grade lymphomas, $P = 0.03$), even when analyzed separately by immunophenotypes. A large mean area per Ki-67-positive cell was associated significantly with a T-cell phenotype (36.3 ± 7.69 microns^2 in T-cell lymphomas and 19.4 ± 2.33 microns^2 in B-cell lymphomas, $P = 0.034$) and an unfavourable clinical outcome. High proliferative activity, defined as nuclear Ki-67 expression in 2000 or more B-cell lymphoma cells and 1000 or more T-cell lymphoma cells in a 1 mm^2 area, was found to be a strong predictor of poor survival among these patients ($P = 0.048$ and $P = 0.009$, respectively). CONCLUSIONS. Ki-67 immunostaining, combined with image analysis, is a novel method for determining a tumour proliferative index that provides useful clinical data regarding head and neck lymphomas. Author.

The effect of intranasal azelastine, Rhinolast, on nasal airways obstruction and sneezing following provocation testing with histamine and allergen. Thomas, K. E., Ollier, S., Ferguson, H., Davies, R. J. Department of Respiratory Medicine, St Bartholomew's Hospital, London, UK. *Clinical and Experimental Allergy* (1992) June, Vol. 22 (6), pp. 642–7.
The effect of single dose topical nasal therapy with azelastine hydrochloride (azelastine) on the response of nasal airways resistance (NAR) to provocation testing was studied in 36 patients with seasonal allergic rhinitis. Nasal provocation testing (NPT) with histamine or grass pollen was performed after a single dose of azelastine, 0.28 mg to each nostril, or placebo. NAR was assessed by rhinomanometry for 10 hour following NPT. Compared to placebo the NAR response to histamine was inhibited at both one and two-hour following azelastine administration, significant at one hour (P less than 0.02) and two hours (P less than 0.0001). No such effect was observed in relation to allergen-induced changes in NAR. Azelastine also inhibited numbers of sneezes for up to 10 hours following both histamine NPT (P less than 0.02) and allergen NPT (P less than 0.05), when compared to placebo. Forty-seven per cent of participants experienced bitter or unpleasant taste sensations after azelastine administration but no other unwanted effects were clearly related to azelastine therapy. Author.

Hypertrophic cranial pachymeningitis due to Aspergillus flavus. Murai, H., Kira, J., Kobayashi, T., Goto, I., Inoue, H., Hasuo, K. Department of Neurology, Faculty of Medicine, Kyushu University, Fukuoka, Japan. *Clinical Neurology and Neurosurgery* (1992), Vol. 94 (3), pp. 247–50.
A 59-year-old woman suffered from occipital headache and bilateral cranial nerve VII, VIII, IX, X, XI and right XII deficit after developing otitis media. Magnetic resonance imaging (MRI) showed a thickening of the dura mater which was enhanced by gadolinium-DTPA (Gd). Aspergillus flavus was identified from the culture of otorrhea. She was treated with miconazole, flucytosin and fluconazole, which resulted in an improvement of the clinical symptoms and a thinning of the Gd-enhanced lesions on MRI. This is the first case of hypertrophic cranial pachymeningitis caused by Asp. flavus infection. Author.

Direct puncture venography in subcutaneous cavernous haemangiomas. Troughton, A. H., Paxton, R. M. Department of Radiology, Derriford Hospital, Plymouth. *Clinical Radiology* (1992) April, Vol. 45 (4), pp. 250–3.
The conventional assessment of subcutaneous cavernous haemangiomas by venography, arteriography, ultrasound, computed tomography (CT) or magnetic resonance imaging (MRI) is often unsatisfactory and fails to show either the extent of the lesion or its feeding and draining vessels. We describe a direct puncture venography technique which successfully delineated the lesions in six patients. The technique was easy to perform and no complications occurred. Author.

Case report: taste of success in thyroglossal fistulography. Massoud, T. F., Schnetler, J. F. Department of Radiology, John Radcliffe Hospital, Oxford. *Clinical Radiology* (1992) April, Vol. 45 (4), pp. 281–3.
Thyroglossal fistulography is poorly documented in the radiological literature. An illustrative case is presented, highlighting the technique employed and the significance of its findings. The taste of contrast medium as it spills over the tongue is a useful additional sign in the successful demonstration of a fistulous communication. The contribution of fistulography to the accurate diagnostic work-up of patients undergoing the Sistrunk procedure is discussed. Author.

The lateral neck radiograph in suspected impacted fish bones—does it have a role? Evans, R. M., Ahuja, A., Rhys-Williams, S., Van Hasselt, C. A. Department of Diagnostic Radiology, Prince of Wales Hospital, Chinese University of Hong Kong, Shatin. *Clinical Radiology* (1992) August, Vol. 46 (2), pp. 121–3.
A double blind trial, using lateral neck radiographs of 100 patients with proven impacted fish bones and 100 normal cases, was conducted to assess the sensitivity, specificity and positive predictive value of radiography for impacted fish bones. Values of 25.3 per cent, 86.3 per cent and 72.7 per cent respectively were obtained. The results are correlated to the clinical findings and reasons for the poor performance of radiography are discussed. It is recommended that routine radiography for suspected impacted fish bones should be abandoned. Author.

The imaging characteristics of naso-sinus chondrosarcoma. Lloyd, G. A., Phelps, P. D., Michaels, L. Royal National Throat, Nose and Ear Hospital, London. *Clinical Radiology* (1992) September, Vol. 46 (3), pp. 189–92.
Eighteen patients with histologically-verified naso-sinus chondrosarcomata are reviewed, emphasizing their CT and MRI appearances. These tumours present with a soft tissue mass expanding and destroying bone and typically (89 per cent) showing areas of nodular or plaque-like calcification on CT. The magnetic resonance characteristics are more specific and when present with the typical CT features are diagnostic of chondrosarcoma. They combine high signal on T2-weighted sequences, with differential enhancement on post-Gadolinium T1-weighted scans. The contrast enhancement is seen at the periphery of the tumour and the central chondromatous core does not enhance. These changes are dependent upon the vascularity of the tissues concerned and have been correlated exactly with the histopathology of the resected tumour specimens. Author.

Radiological survey of the cervical spine in cleft lip and palate. Hoenig, J. F., Schoener, W. F. University Hospital and Medical School Goettingen, Germany. *Dentomaxillofacial Radiology* (1992) February, Vol. 21 (1), pp. 36–9.
Cleft lip and palate is known to be associated with a number of other skeletal anomalies. The purpose of this study was to investigate the prevalence of possible malformations of the cervical spine and their relationship to velopharyngeal incompetence. The lateral cephalometric radiographs of 30 patients aged between 14 and 27 years of age with cleft lip and palate were compared with these of a control group, who had been involved in cycle accidents. The radiographs were assessed for morphological anomalies of the first and second cervical vertebrae and, in addition, longitudinal and angular measurements performed. Speech was assessed by electromagnetic articulography. A greater number of cervical spine anomalies were found in patients with cleft lip and palate and these were also associated with significantly ($P<0.05$) greater osseous-nasopharyngeal depth. Author.

Medical cure of a brainstem abscess and serial brainstem auditory evoked potentials. Wang, H. S., Kuo, M. F., Huang, S. C. Department of Pediatrics, Chang Gung Memorial Hospital, Taipei, Taiwan, Republic of China. *Developmental Medicine and Child Neurology* (1992) October, Vol. 34 (10), pp. 911–5.
The brainstem abscess of a nine-year-old girl with tetralogy of Fallot wsa cured after six weeks of parenteral antibiotic therapy, without surgical intervention. Serial studies of brainstem auditory evoked potentials were undertaken until the patient was clinically normal. To the authors' knowledge, this is only the second medically cured case reported in the literature, and it is the first case studied with serial brainstem auditory evoked potentials. If the clinical status allows, medical treatment of a brainstem abscess with appropriate antibiotics could be tried before surgical intervention such as stereotactic aspiration for reducing the mass. Author.

Correlations of neuroanatomical measures to auditory brain stem response latencies. Sabo, D.L., Durrant, J. D., Curtin, H., Bos-

ton, J. R., Rood, S. Children's Hospital of Pittsburgh, Pennsylvania. *Ear and Hearing* (1992) August, Vol. 13 (4), pp. 213–22.
Magnetic resonance imaging (MRI) was used to obtain measures presumed to scale the dimensions of the lower auditory pathway in humans for the purpose of further defining the relationship between length of the auditory pathway and auditory brain stem response (ABR) latencies. Specifically, measurements of soft tissue structures, that is, the eighth nerve and brain stem, were made for comparison with skull dimensions and ABR latencies. It was hypothesized that the brain stem dimensions covary significantly with skull dimensions and that the ABR parameters covary with both skull and brain stem dimensions. In general, only weak correlations were obtained with coefficients failing to reach statistical significance for most comparisons. These findings suggest that variance in ABR latencies cannot be attributed completely to variance in brain stem dimensions and raise suspicion that skull dimensions do not directly reflect brain stem dimensions. Author.

The effect of cochlear hearing loss on auditory brain stem response latency. Kirsh, I., Thornton, A., Burkard , R., Halpin, C. Garden State Rehabilitation Hospital, Toms River, New Jersey. *Ear and Hearing* (1992) August, Vol. 13 (4), pp. 233–5.
The effect of audiometric configuration on the auditory brain stem response was studied in a large patient sample, and wave I latencies, wave V latencies, and the I-V interwave intervals were compared to those from a previous report. Patients with notched hearing losses showed longer wave V latencies and I-V interwave intervals than those with other audiometric configurations, but the magnitude of the effect was relatively small, and the confidence limit for cochlear diagnosis was essentially the same as that based upon a cochlear hearing loss population without regard to audiometric configuration. Author.

The clinical assessment of 'Obscure Auditory Dysfunction' (OAD) 2. Case control analysis of determining factors. Saunders, G. H., Haggard, M. P. MRC Institute of Hearing Research, University Park, Nottingham, England. *Ear and Hearing* (1992) August, Vol. 13 (4), pp. 241–54.
Obscure Auditory Dysfunction (OAD) is defined as a clinical referral for self-reported auditory disability with no audiometric abnormality by stringent criteria. In stage 2 of a case control study of OAD, we have confirmed the general finding of stage 1 that OAD is multifactorial; compared with controls, patients as a group have a genuine performance deficit for understanding speech in noise, accompanied by personality-related factors. Paired logistic regression analysis optimally differentiated the 50 patients from their 50 matched controls on the basis of variables from three different domains: masked thresholds (psychoacoustic domain), dichotic listening ability (central/cognitive domain), and underestimation of own hearing ability (personality domain). A further and influential contributing variable was understanding of speech in noise supplementing the variables in both the psychoacoustic and the cognitive domains. With this model, 82.7 per cent of the total group deviance was explained (i.e. the binary variable of case/control). A corresponding discriminant function analysis correctly classified 80 per cent of patients and 90 per cent of controls. When factors underlying the performance and personality-related variables were investigated with multiple linear regression within the two groups separately, relatively little of the within-group variance among OADs was explained. This is consistent with the multifactorial nature of OAD, in that the combinations of factors leading to OAD status differ between individuals. The research findings have been used to design a clinical test package to provide diagnostic information on the basis of OAD in individuals. Author.

Effect of hearing loss of cochlear origin on the auditory brain stem response. Shepard, N. T., Webster, J. C., Baumen, M., Schuck, P. Vestibular Testing Centre, Department of Otolaryngology and Head and Neck Surgery, University of Michigan, Ann Arbor. *Ear and Hearing* (1992) June, Vol. 13 (3), pp. 173–80.
Auditory brain stem response (ABR) testing is widely used to detect lesions of the auditory neural pathways. The ABR waves depend not only on the integrity of the neural pathways, but also on the condition of the cochlea. To properly interpret the ABR response, it is necessary to understand the effects of cochlear hearing loss on the ABR wave latencies. We studied two populations of subjects with cochlear hearing loss: one with varying degrees of high-frequency hearing loss and the other with varying degrees of flat configuration hearing loss. The degree of cochlear hearing loss was quantified in several different ways and subjected to one linear and three nonlinear regression analyses to test for accuracy in predicting ABR wave latencies and interpeak intervals (waves I, III, V, I–V, I–III, and III–V) for three click intensities. Hearing loss levels from 2 to 6 kHz, in particular 4 kHz were superior to other audiometric test frequencies as predictors of ABR wave latencies for the group with the high-frequency losses. No particular characterization was found to be superior for the flat hearing loss configurations. From these results, modelled predictions of wave latencies as a function of degree and configuration of hearing loss were made. The modelled predictions are then used to suggest guidelines for interpretations of ABR results where hearing impaired patients are involved. Author.

A comparison of acoustic reflex and auditory brain stem response screening of high-risk infants. Hirsch, J. E., Margolis, R. H., Rykken, J. R. Department of Otolaryngology, University of Minnesota, Minneapolis. *Ear and Hearing* (1992) June, Vol. 13 (3), pp. 181–6.
This investigation was undertaken to explore the feasibility of screening for hearing impairment in an intensive care nursery population with a combined acoustic stapedius reflex-ABR approach. Acoustic reflex threshold measurements (AR) were made on intensive care nursery patients in an existing ABR screening program. Pass-fail results were determined for the two methods, separately and in combination. AR screening identified all ten ears that failed the ABR screen. The cost savings of screening with a combined AR-ABR approach as determined for various pass-fail criteria. The results suggest that the AR-ABR approach can produce a significant cost savings without compromising the sensitivity and specificity of the screening program. Author.

Auditory perception changes after reimplantation in a child cochlear implant user. Chute, P. M., Hellman, S. A., Parisier, S. C., Tartter, V. C., Economou, A. Cochlear Implant Centre, Manhattan Eye, Ear and Throat Hospital, New York, New York. *Ear and Hearing* (1992) June, Vol. 13 (3), pp. 195–9.
The ability to remove cochlear implants from children and subsequently reimplant a more complex device in the same ear was the concern of this single case study. A postlinguistically deafened child, J. L., received a single-channel cochlear implant one year after contracting meningitis and suffering a profound bilateral sensorineural hearing loss. After three years of successful implant use, J.L. suffered an internal coil failure. She was then explanted and reimplanted with a multichannel cochlear implant in the same ear. This case report details her speech perception skills with her single-channel cochlear implant, a vibrotactile aid, and a multichannel cochlear implant. Results from auditory perceptual measures suggest that the explantation/reimplantation process was technically feasible with no adverse effects on J.L.'s ability to utilize a more sophisticated device and to exceed her previous performance levels. Author.

Performance over time with a nucleus or Ineraid cochlear implant. Tye-Murray, N., Tyler, R. S., Woodworth, G. G., Gantz, B. J. Department of Otolaryngology-Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City. *Ear and Hearing* (1992) June, Vol. 13 (3), pp. 200–9.
This investigation determined whether the audiological performance of cochlear implant users varied with experience. Thirteen Nucleus and 14 Ineraid subjects were evaluated at one, nine and 18 months after cochlear implant connection. Ten Nucleus and five Ineraid subjects were tested at 30 months. On average, the ability of the subjects to recognize words and phonemes in an audition-only condition improved during the first nine months, as did their ability to recognize spondees in noise. The phoneme scores continued to improve during the next nine months. Environmental sound recognition improved gradually; significant improvement from the one month scores was not noted until 18 months. About half of the subjects who demonstrated poor word recognition at one month showed significantly improved percent word correct scores by 18 months. The Nucleus and Ineraid subjects did not differ in their patterns of change over time. An information transmission analysis performed on the subjects' consonant confusion matrices showed relatively

little change for the nasality and place features during the first 18 months, and relatively large change for the voice, duration, and frication features. Most improvement in the feature scores occurred during the first nine months. Author.

Fibreoptic examination of the nasal cavity and nasopharynx in children. Wang, D., Clement, P., Kaufman, L., Derde, M. P. Department of Otorhinolaryngology, University Hospital, Brussels, Belgium. *International Journal of Pediatric Otorhinolaryngology* (1992) July, Vol. 24 (1), pp. 35–44.
In this prospective study, a flexible fibreoptic nasolaryngoscope with colour video camera was used to examine the nasal cavity and nasopharynx in 180 pediatric patients. The relative size of the adenoid tissue was judged by endoscopy, which lead to a classification into three types according to the distance from the vomer to the adenoid tissue. The condition of the nasopharyngeal orifice of the Eustachian tube was also described and differentiated into three types relating to the condition of adenoid tissue. Assessment was performed by correlating these measurements with the tympanogram, lateral X-ray and clinical complaints. The authors conclude that: (1) fibreoptic examination allows direct visualization of the size and condition of the adenoid tissue, as well as of the condition of the nasopharyngeal orifice of the Eustachian tube. (2) The size of the adenoid tissue correlates very well with the nasal obstruction complaints as well as with the type of tympanogram. (3) The condition of the nasopharyngeal orifice of the Eustachian tube significantly corresponds with the type of typanogram. (4) For the indication of adenoidectomy, fibrescopy gives more accurate information than standard X-ray. (5) With a correct choice of premedication and local anesthesia, it is a minor invasive technique which is very well tolerated by children. It is possible in all cases, provided it is performed by a skilled endoscopist and preceded by careful explanation to the child. (6) Finally, thanks to the possibility of direct visualization of the fibrescopic image via a monitor, it allows a better explanation of the indication for adenoidectomy to the child's parents. Author.

Parental smoking and persistent otitis media with effusion in children. Rowe-Jones, J. M., Brockbank, M. J. Department of Otolaryngology, St George's Hospital and Medical School, London, UK. *International Journal of Pediatric Otorhinolaryngology* (1992) July, Vol. 24 (1), pp. 19–24.
A total of 163 children were entered into a case-control study to determine whether any causal relationship exists between otitis media with effusion (OME) requiring grommet insertion and parental smoking. One hundred children with persistent OME formed the case group and 63 children with normal ears formed the control group. The prevalence of parental smoking in each group was then compared. Information was collected by questionnaire and further details about the subjects with regard to surgery of the upper respiratory tract were also gathered. Analysis of findings in this study and previous reports has failed to demonstrate a significantly increased prevalence of smoking in at least one parent, amongst children with persistent otitis media with effusion requiring surgical intervention. Author.

Tissue-integrated implants in children. Jacobsson, M., Albrektsson, T., Tjellstrom, A. Department of Handicap Research, Sahlgren's Hospital, University of Gothenburg, Sweden. *International Journal of Pediatric Otorhinolaryngology* (1992) November, Vol. 24 (3), pp. 235–43.
The aim of this study is to present our clinical experience with tissue-integrated extra-oral implants in children. Thirty consecutive cases of children with a total of 59 standard titanium fixtures inserted in the temporal bones and used as bone-anchorage for auricular epistheses (14 cases) and hearing aids (16 cases) were studied. The surgical procedure is performed in two steps and involves an extremely gentle handling of the soft tissue and bone. The patients were followed with regular check-ups for an average of 40 months after hearing aid/prosthesis fitting. The fixture survival rate was 96.6 per cent for the whole group. The hearing aids had a reaction-free skin penetration in 91.67 per cent of the postoperative observations and the prostheses had a reaction-free skin penetration in 75 per cent of the postoperative observations. It is concluded that the use of 'osseointegrated', implants in carefully selected cases, in children, appears to be a reliable method for bone anchorage of epistheses and bone conduction hearing aids. A close follow-up and control of this patient category is especially important with respect to the long-term results. Author.

Long-term results of Goode's tympanostomy tubes in children. Prichard, A. J., Marshall, J., Skinner, D. W., Narula, A. A. Department of Otolaryngology, Leicester Royal Infirmary, UK. *International Journal of Pediatric Otorhinolaryngology* (1992) November, Vol. 24 (3), pp. 227–33.
The results of a restrospective study of the complications of middle ear ventilation by Goode's T-tubes in children are presented. Two hundred and forty-eight T-tubes were inserted into 119 patients. 16.9 per cent progressed to spontaneous extrusion with a mean period of ventilation approaching 20 months. 54.9 per cent of patients experienced otorrhoea which was found to be significantly more common in those ears with a mucoid effusion at the time of T-tube insertion. 21.1 per cent of ears developed a persistent perforation where spontaneous extrusion had occurred or the T-tubes had been removed. Perforation also occurred more frequently in those with otorrhoea. Author.

Relations among different measures of speech reception in subjects using a cochlear implant. Rabinowitz, W. M., Eddington, D. K., Delhorne, L. A., Cuneo, P. A. Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge 02139. *Journal of the Acoustical Society of America* (1992) October, Vol. 92 (4 Pt 1), pp. 1869–81.
A comprehensive set of speech reception measures were obtained in a group of about 20 postlingually deafened adult users of the Ineraid multichannel cochlear implant. The measures included audio, visual, and audiovisual recognition of words embedded in two types of sentences (with differing degrees of difficulty) and audio-only recognition of isolated monosyllabic words, consonant identification (12 alternatives, /Ca/), and vowel identification (eight alternatives, /b Vt/). For most implantees, the audiovisual gains in the sentence tests were very high. Quantitative relations among audio-only scores were assessed using power-law transformations suggested by Boothroyd and Nittrouer (*Journal of the Acoustical Society of America* **84,** 101–114 (1988)) than can account for the benefit of sentence context (via a factor k) and the relation between word and phoneme recognition (via a factor j). Across the broad range of performance that existed among the subjects, substantial order was observed among measures of speech reception along the continuum from recognition of words in sentences, words in isolation, speech segments, and the retrieval of underlying phonetic features. Correlations exceeded 0.85 among direct and sentence-derived measures of isolated word recognition as well as among direct and word-derived measures of segmental recognition. Results from a variety of other studies involving presentation of limited auditory signals, single-channel and multichannel implants, and tactual systems revealed a similar pattern among word recognition, overall consonant identification performance, and consonantal feature recruitment. Finally, improving the reception of consonantal place cues was identified as key to producing the greatest potential gains in speech reception. Author.

Speech changes following reimplantation from a single-channel to a multichannel cochlear implant. Economou, A., Tartter, V. C., Chute, P. M., Hellman, S. A. City College, CUNY, New York 10031. *Journal of the Acoustical Society of America* (1992) September, Vol. 92 (3), pp. 1310–23.
The speech of a postlingually deafened preadolescent was recorded and analyzed while a single-electrode cochlear implant (3M/House) was in operation, on two occasions after it failed (one day and 18 days) and on three occasions after stimulation of a multichannel cochlear implant (Nucleus 22) (one day, six months and one year). Listeners judged 3M/House tokens to be the most normal until the subject had one year's experience with the Nucleus device. Spectrograms showed less aspiration, better formant definition and longer final frication and closure duration poste-Nucleus stimulation (six months Nucleus and one year nucleus) relative to the 3M/House and no auditory feedback conditions. Acoustic measurements after loss of auditory feedback (one day fail and 18 days fail) indicated a constriction of vowel space. Appropriately higher fundamental frequency for stressed than unstressed syllables, an expansion of vowel space and improvement in some aspects of production of voicing, manner and place of articulation were noted one year post-Nucleus

stimulation. Loss of auditory feedback results are related to the literature on the effects of postlingual deafness on speech. Nucleus and 3M/House effects on speech are discussed in terms of speech production studies of single-electrode and multichannel patients. Author.

On the purported discovery of the bronchial circulation by Leonardo da Vinci. Mitzner, W., Wagner, E. Johns Hopkins Medical Institutions, Baltimore, Maryland 21205. *Journal of Applied Physiology* (1992) September, Vol. 73 (3), pp. 1196–201.
Among modern physiologists and anatomists, there has been a nearly universal acceptance that Leonardo da Vinci was the first to identify the anatomy of the bronchial circulation. However, because of certain ambiguities in both his anatomic drawing that was supposed to have shown this circulation and the accompanying descriptive text, we questioned whether he really could have been the first to discover this small but important vasculature. To address this question, we set out to repeat Leonardo's dissections in the ox. We reasoned that perhaps the normally tiny bronchial vessels would be considerably more noticeable in this very large species. Our dissections, however, failed to provide any evidence that Leonardo's drawing was that of the bronchial circulation. Furthermore we observed a set of distinct small pulmonary veins to the left upper and right middle lobes that Leonardo, given his lack of understanding of the function of the lung and its circulation, could have easily mistaken for a separate circulation. We thus conclude that Leonardo da Vinci did not describe the anatomy of the bronchial circulation. We believe that the first person to clearly and unequivocally describe the anatomy of this circulation was the Dutch Professor of Anatomy and Botany, Frederich Ruysch. Author.

Disturbances of smell and taste after high central midface fractures. van Damme, P. A., Freihofer, H. P. Department of Oral and Maxillo Facial Surgery, University Hospital, Nijmegen, The Netherlands. *Journal of Craniomaxillofacial Surgery* (1992) August-September, Vol. 20 (6), pp. 248–50.
Estimation of the senses of smell and taste in patients who had suffered a high central midface fracture between 1979 and 1989 was carried out. One hundred and eighty of these patients were operated on for repositioning and fixation of their fractures. A written questionnaire was sent to 165 living patients, 109 individuals responded, a response rate of 66 per cent. Of these patients, 38 per cent claimed to suffer impaired ability to smell and 23 per cent not to taste well. Sixty four per cent mentioned unconsciousness after the trauma. With rising seriousness of the trauma, more disturbances of smell are found: from 25 per cent of the nasal fractures, to 80 per cent of the fronto-nasal-Le Fort fractures. In more than half of the cases of disturbance of smell, a simultaneous impairment of taste was reported. It can be concluded that disturbance of smell most often appears after fronto-maxillary and fronto-nasal fractures. However, the higher and more extensive the fracture is, the more frequently is unconsciousness reported. Consequently, impairment of smell can be attributed to the fracture itself, but also to a cerebral lesion located more proximally. Author.

Aneurysmal bone cyst of the maxilla—an association with tooth resorption. Hardee, P. S., Whear, N. M., Morgan, P. R. Department of Maxillofacial Surgery, St Richard's Hospital, Chichester, West Sussex, UK. *Journal of Craniomaxillofacial Surgery* (1992) August–September, Vol. 20 (6), pp. 266–9.
The aneurysmal bone cyst is an uncommon lesion of the jaws. Cases involving the maxilla have been reported infrequently. Despite uncertainty as to the aetiology of the aneurysmal bone cyst, it is regarded as a benign lesion. Conservative surgical treatment with regular postoperative follow-up is recommended. The case described here presented with tooth mobility resulting from extensive root resorption. A review of the literature reveals that significant root resorption is not a commonly reported feature of aneurysmal bone cysts. For the present case we interpret the evidence as supporting a diagnosis of idiopathic root resorption complicated by the formation of a aneurysmal bone cyst. Author.

The role of radiotherapy in the management of salivary gland carcinomas. Shingaki, S., Ohtake, K., Nomura, T., Nakajima, T. First Department of Oral and Maxillofacial Surgery, School of Dentistry, Niigata University , Japan. *Journal of Craniomaxillofacial Surgery* (1992) July, Vol. 20 (5), pp. 220–4.
A retrospective study was performed on 44 patients with carcinoma originating in the major and minor salivary glands to examine the effects of postoperative radiotherapy on locoregional and distant control and survival. Twenty two patients were treated by surgery alone and the 22 other patients were treated by a combination of surgery and postoperative irradiation. In the surgery group, local recurrence developed in all eight patients with evidence of residual disease at the surgical margins, whereas local control was achieved in 7 of 15 patients with positive surgical margins in the combination group and the control rate was related to the amount of residual disease. Neck metastasis, which developed in 13 patients (30 per cent), was not affected by the status of surgical margins or by the treatment modality. On the other hand, the incidence of distant metastasis seen in 19 patients (43 per cent) was much higher in patients with positive surgical margins and the development of distant metastasis in these patients was not prevented by postoperative irradiation. The survival rates at 5, 10 and 15 years were 54, 48 and 41 per cent, respectively, for the irradiated patients, whereas the values for the patients treated by surgery alone were 75, 70 and 70 per cent, respectively. The results indicate that postoperative irradiation is effective in controlling local recurrence but not neck and distant metastases. Wide excision with sufficient surgical margins followed by postoperative radiotherapy and systemic chemotherapy are essential to obtain a better prognosis. Author.

The combined monitoring of brain stem auditory evoked potentials and intracranial pressure in coma. A study of 57 patients. Garcia-Larrea, L., Artru, F., Bertrand, O., Pernier, J., Mauguiere, F. EEG Department, Hopital Neurologique, Lyon, France. *Journal of Neurology, Neurosurgery and Psychiatry* (1992) September, Vol. 55 (9), pp. 792– 8.
Continuous monitoring of brainstem auditory evoked potentials (BAEPs) was carried out in 57 comatose patients for periods ranging from five hours to 13 days. In 53 cases intracranial pressure (ICP) was also simultaneously monitored. The study of relative changes of evoked potentials over time proved more relevant to prognosis than the mere consideration of 'statistical normality' of waveforms; thus progressive degradation of the BAEPs was associated with a bad outcome even if the responses remained within normal limits. Contrary to previous reports, a normal BAEP obtained during the second week of coma did not necessarily indicate a good vital outcome; it could, however, do so in cases with a low probability of secondary insults. The simultaneous study of BAEPs and ICP showed that apparently significant (greater than 40 mmHg) acute rises in ICP were not always followed by BAEP changes. The stability of BAEP's despite 'significant' ICP rises was associated in our patients with a high probability of survival, while prolongation of central latency of BAEPs in response to ICP modifications was almost invariably followed by brain death. Continuous monitoring of brainstem responses provided a useful physiological counterpart to physical parameters such as ICP. Serial recording of cortical EPs should be added to BAEP monitoring to permit the early detection of rostrocaudal deterioration. Author.

The significance for postoperative hearing of preserving the labyrinth in acoustic neurinoma surgery. Tatagiba, M., Samii, M., Matthies, C., el Azm, M., Schonmayr, R. Hannover Medical School, Neurosurgical Clinic, Nordstadt Hospital, Germany. *Journal of Neurosurgery* (1992) November, Vol. 77 (5), pp. 677–84.
Among 186 patients with preoperative hearing, a total of 189 acoustic neurinomas were removed through a lateral suboccipital approach with anatomical preservation of the cochlear nerve. Functional hearing was preserved in 92 (49 per cent) of these patients; despite anatomical preservation of the cochlear nerve, deafness was the result in 51 per cent of the series. Many factors have been considered to cause hearing loss in patients whose cochlear nerve was intact after surgery; these include nerve retraction, nerve or cochlear ischaemia, overheating and vibration damage to the nerve, and opening of the labyrinth. To evaluate the significance of injury to the labyrinth in postoperative hearing loss, a prospective study was undertaken. High-resolution computerized tomography studies through the inner ear with bone algorithm were performed pre- and postoperatively. The postoperative status of the labyrinth was classified into three patterns: intact, fenestrated, and widely opened. Injury to the labyrinth occurred in 30 per cent of the cases. The most

frequently injured labyrinth structures were the crus commune of the posterior and superior semicircular canals (52 per cent), the posterior semicircular canal (23 per cent), the vestibule (21 per cent), and the superior semicircular canal (4 per cent). A statistically significant relationship was found between injury to the labyrinth and deafness, elevated thresholds, and lower discrimination values at pure-tone audiograms and speech audiometry ($P<0.0001$). The degree of the injury (comparison between fenestration and wide opening of the labyrinth) was also significantly related to postoperative deafness ($P<0.0001$). Disturbance of the inner-ear fluids was considered to be the cause of the hearing loss. In 12 patients labyrinth injury was not associated with deafness. This finding may support the existence of mechanisms of cochlear protection. The homeostatic function of the endolymphatic sac was considered to play an important role in recovery of damaged hearing in these 12 cases. Author.

Late course of preserved hearing and tinnitus after acoustic neurilemoma surgery. Goel, A., Sekhar, L. N., Langheinrich, W., Kamerer, D., Hirsch, B. Department of Neurological Surgery, Presbyterian University Hospital, Pittsburgh, Pennsylvania. *Journal of Neurosurgery* (1992) November, Vol. 77 (5), pp. 685–9.
The late course of preserved hearing and tinnitus following retrosigmoid transmeatal surgery for acoustic neurilemoma is reported. Over a period of five years, useful hearing was preserved in 15 patients after preservation was attempted in 42 patients. In five patients the hearing was better than the preoperative level; in three it was worse. Three patients developed delayed worsening and fluctuations of hearing in the surgically treated ear during a median follow-up period of two and a half years. While the exact reason for such worsening was not clear in two patients, in one patient it appeared that the muscle graft placed in the internal auditory canal after tumour resection resulted in fibrosis and compromise of the cochlear nerve. The causes of delayed worsening of hearing in the absence of tumour recurrence are analysed, and possible treatment and methods of prevention of worsening are suggested. In six patients, tinnitus persisted after surgery in the ear with successful preservation of hearing, but hearing was not worsened and the tinnitus was not bothersome to the patient. In one patient with preoperative tinnitus, hearing was not preserved and tinnitus persisted sufficiently to necessitate reexploration and cochlear nerve section. Author.

Occupational risks for nasopharyngeal cancer in Shanghai. Zheng, W., McLaughlin, J. K., Gao, Y. T., Gao, R. N., Blot, W. J. Department of Epidemiology, Shanghai Cancer Institute, China. *Journal of Occupational Medicine* (1992) October, Vol. 34 (10), pp. 1004–7.
To investigate occupational determinants of nasopharyngeal cancer (NPC) in the urban area of Shanghai, occupational information for 996 incident NPC patients diagnosed during 1980 to 1984 was compared with 1982 consus data on employment. Standardized incidence ratios for NPC were estimated for broad and detailed occupational classifications. For the broadest level of classification, no excess risk was observed among craftsmen and related manufacturing workers, but within this group significant excess risks were observed for specific occupations of textile weavers and knitters; metal smelting, converting, and refining furnacemen; boiler firemen; blacksmiths, hammersmiths, and forging-press operators; bakers, pastry cooks, and confectionery makers; welders and flame-cutters; and metal grinders, polishers, tool sharpeners, and machine-tool operators. Some of these findings are new; others are consistent with previous studies in other areas of the world. This study provides further evidence for the role of occupational factors in NPC. Author.

Rigid reconstruction plates for immediate reconstruction following mandibular resection for malignant tumours. Lindqvist, C., Soderholm, A. L., Laine, P., Paatsama, J. Department of Oral and Maxillofacial Surgery, Helsinki University Central Hospital, Finland. *Journal of Oral and Maxillofacial Surgery* (1992) November, Vol. 50 (11), pp. 1158–63.
Thirty-four primary alloplastic reconstructions of segmental mandibular defects caused by surgery for oral malignancy were performed during a six-year period. Eighty-eight per cent of the tumours were classified as stage III or IV. One third of the patients died during follow-up, nine with their primary reconstruction plate in place. During the follow-up, 12 patients required plate removal because of complications; four of them were treated with another plate. Nineteen of 21 patients alive at the end of follow-up were free of disease. Ten had their primary plate in place, and four had had a secondary plate installed because of plate fracture or screw loosening. Three patients had their mandible permanently reconstructed with bone. The functional and esthetic results were considered excellent or fair in a majority of the cases. Because the five-year survival rate for patients with advanced mandibular malignancies is 15 to 20 per cent, extensive, definitive reconstructive procedures during primary surgery are usually not justified. Author.

Role of immunoglobulin subclasses and specific antibody determinations in the evaluation of recurrent infection in children. Gross, S., Blaiss, M. S., Herrod, H. G. Department of Pediatrics, University of Tennessee, Memphis 38163. *Journal of Pediatrics* (1992) October, Vol. 121 (4), pp. 516–22.
We studied humoral immune function in 267 children with recurrent respiratory infections referred to our immunology clinic to determine the most appropriate immunologic studies for evaluating recurrent infections in children. Of this highly selected population, 58 per cent had a partial deficiency in one or more of the major immunoglobulin isotypes or IgG subclasses (defined as at least 2 SD below the normal age-adjusted mean). In none of the patients was there a total absence of an immunoglobulin isotype. The most common abnormality was partial IgA deficiency, which was found in one third of the patients. Twenty-six patients had only partial IgG subclass deficiencies, of which 20 were deficiencies of a single subclass. IgG1 was an isolated partial defect in three patients, IgG3 in five patients, and IgG2 and IgG4 were selective partial defects in six patients each. Tetanus toxoid and pneumopolysaccharide type 3 were the most immunogenic of the immunogens tested; hyporesponsive to pneumococcal polysaccharide types 7, 9, and 14 was common. Nineteen per cent of the patients with normal immunoglobulin concentrations who were tested had lower-than-expected antibody titres; 42 per cent of those tested with partial isotype deficiencies had deficient antibody responses. Of 25 patients with selective partial IgG subclass deficiencies or combined IgG subclass deficiencies, eight had antibody deficiencies. Our findings indicate that a high proportion of children referred to immunology clinics for recurrent infection have a demonstrable immunologic abnormality. Selective IgG subclass deficiency or a combined IgG subclass deficiency without an associated deficiency in a major immunoglobulin isotype is unusual. Identification of such patients is not predictive of the capacity to form antibodies to the antigens tested in this study and, in our opinion, adds little to the inital evaluation of immune function in such children. Author.

Effectiveness of dexamethasone in preventing extubation failure in preterm infants at increased risk for airway edema. Couser, R. J., Ferrara, T. B., Falde, B., Johnson, K., Schilling, C. G., Hoekstra, R. E. Division of Neonatology, Minneapolis Children's Medical Centre, Minnesota. *Journal of Pediatrics* (1992) October, Vol. 121 (4), pp. 591–6.
We studied 50 preterm infants who had multiple or traumatic endotracheal intubations, or whose duration of endotracheal intubation was > or = to 14 days, and who were considered at high risk for airway edema. These infants were enrolled in a prospective, randomized, controlled clinical trial to assess whether prophylactic dexamethasone therapy would be effective in the prevention of postextubation stridor and respiratory distress. At study entry, both groups had similar weights, postnatal ages, methylxanthine use, ventilator settings, blood gas values, and pulmonary function test results (dynamic compliance, total respiratory resistance, tidal volume, peak-to-peak transpulmonary pressure, minute ventilation, and peak inspiratory and expiratory flow rates). Patients underwent blood gas studies, physical examinations, and pulmonary function testing at baseline (four hours before extubation) and again two to four hours and 18 to 24 hours after extubation. Twenty-seven infants received dexamethasone, 0.25 mg/kg per dose, at baseline, and then every eight hours for a total of three doses; 23 infants received saline solution at corresponding times. Eighteen to 24 hours after extubation, total pulmonary resistance increased by 225 per cent from baseline in the control group compared with 33 per cent in the dexamethasone group ($P<0.006$), and the dexamethasone group had a greater tidal volume, a greater dynamic compliance, and a lower arterial carbon dioxide pressure. Of 23 control infants, ten had

postextubation stridor compared with two of 27 dexamethasone-treated patients ($P<0.006$). Of the 23 control patients, four required reintubation compared with none of the treated group ($P<0.05$). We conclude that the prophylactic use of corticosteroids for the prevention of postextubation stridor and respiratory distress is efficacious in low birth weight, high-risk preterm infants. Author.

Haemodynamic effects of tracheal compared with intravenous adrenaline. McCrirrick, A., Kestin, I. Department of Anaesthetics, Derriford Hospital, Plymouth, Devon, UK. *Lancet* (1992) October 10, Vol. 340 (8824), pp. 868–70.
If intravenous access is not available during cardiopulmonary resuscitation, tracheal administration of adrenaline 0.02 mg/kg, twice the intravenous dose, is recommended. In a randomized crossover study we investigated the haemodynamic effects of low doses of tracheal versus intravenous adrenaline. Twelve anaesthetized patients having a hip replaced received one dose of adrenaline intravenously (0.1 microgram/kg) and the other tracheally (0.5 microgram/kg). There was a mean increase in systolic arterial pressure of 40.5 mmHg (range 16–81) after the intravenous injection, with little effect on heart rate. Tracheal adrenaline had no effect on arterial pressure or heart rate. Thus low doses of tracheal adrenaline have no haemodynamic effects. We believe that the recommended tracheal dose of twice the intravenous dose is likely to be ineffective for the treatment of cardiac arrest. Animal studies suggest that a tracheal dose at least ten times the intravenous dose is required. Author.

Acoustic neurinoma in the elderly: factors predictive of postoperative outcome. Samii, M., Tatagiba, M., Matthies, C. *Neurosurgery* (1992) October, Vol. 31 (4), pp. 615–9; discussion 619–20.
The authors present the results of acoustic neurinoma surgery in 61 elderly patients (age, > or = 65 years). All the patients were operated upon via the lateral suboccipital approach. Complete tumour removal was achieved in all but two patients. There was no operative mortality. Fifty-seven patients (93 per cent) were independent of nursing assistance at the time of discharge from the hospital. Preservation of the facial nerve was achieved in 95 per cent of the patients, and hearing was preserved in 41 per cent. A risk analysis identified three factors exerting a significant influence on the outcome in these cases: the American Society of Anesthesiology score, the preoperative Karnofsky score, and the size of the tumour. The patients' age was not correlated with the postoperative outcome. These results suggest that, in the majority of elderly patients with acoustic tumours, complete tumour removal can be achieved safely and with minimal postoperative morbidity. Preoperative clinical, neurological, and radiological factors can be helpful in the selection of patients for surgical treatment and may predict postoperative outcome. Author.

Ocular findings associated with neurofibromatosis type II. Kaye, L. D., Rothner, A. D., Beauchamp, G. R., Meyers, S. M., Estes, M. L. Department of Ophthalmology, Cleveland Clinic Foundation. *Ophthalmology* (1992), September, Vol. 99 (9), pp. 1424–9.
BACKGROUND: Neurofibromatosis has been recently acknowledged as consisting of a number of different diseases. Neurofibromatosis (NF) type I and NF type II are the most clearly defined. Type II is characterized by bilateral acoustic neuromas and is rare (its incidence is 1/50,000). The previously reported ocular associations of NF type II are posterior subcapsular cataracts, Lisch nodules, and combined hamartomata of the retinal pigment epithelium and retina. In this study, the authors attempt to define further the ocular manifestations of NF type II. METHODS: The authors prospectively examined nine patients who met the diagnostic criteria for NF type II (age, 18 to 38 years; mean, 25 years). RESULTS: Seven of nine patients had epiretinal membranes in the posterior pole. None of these epiretinal membranes were visually significant. In addition, five patients had central posterior cortical cataracts and five had peripheral wedge-shaped cortical cataracts. CONCLUSION: The presence of epiretinal membranes in young patients may represent another clinical finding associated with NF type II. Epiretinal membranes, central posterior cataracts, peripheral cortical cataracts, or combined hamartoma of the retinal epithelium and retina in young patients should alert the ophthalmologist to include NF type II in the differential diagnosis in patients with stigmata of NF type II. Author.

Invasive maxillary aspergillosis after dental extraction. Case report and review of the literature. Martinez, D., Burgueno , M., Forteza, G., Martin, M., Sierra, I. Hospital La Paz, Madrid, Spain. *Oral Surgery, Oral Medicine, Oral Pathology* (1992) October, Vol. 74 (4), pp. 466–8.
Paranasal sinus aspergillosis has usually been considered a rare disease, but it is seen more frequently in both immunocompromised and immunocompetent persons. Invasion may reach the sinuses via the nose or from the mouth after dental procedures. Even though the infection is usually limited to one or more sinuses, it may in certain cases extend to vascular or intracranial structures with a fatal outcome. In these cases, aggressive treatment is justified. We report a case of maxillary sinus aspergillosis that developed after dental extraction. Attention should be given to this possibility even after an apparently uncomplicated dental extraction. Author.

B-cell lymphoma presenting as a midfacial necrotizing lesion. Maxymiw , W. G., Patterson, B. J., Wood, R. E., Meharchand, J. M., Munro, A. J., Gorska-Flipot, I. Ontario Cancer Institute, Princess Margaret Hospital, Toronto, Canada. *Oral Surgery, Oral Medicine, Oral Pathology* (1992) September, Vol. 74 (3), pp. 343–7.
A case of midfacial necrotizing lesion (midline nonhealing granuloma) is reported. Paraffin- and frozen-section immunocytochemistry suggested a tumour of B-cell lineage and was confirmed by Southern blot analysis that disclosed an immunoglobulin heavy chain gene rearrangement with no evidence of T-cell receptor genetic aberration. The tumour was of B-cell lineage despite the tumour site and the angiocentric pattern, which are typically seen with peripheral T cell lymphoma with this presentation. Author.

Epithelioid angiosarcoma of the maxilla. A case report and review of the literature. Freedman, P. D., Kerpel, S. M. Section of Oral Pathology, Booth Memorial Medical Centre, Flushing, N.Y. *Oral Surgery, Oral Medicine, Oral Pathology* (1992) September, Vol. 74 (3), pp. 319–25.
Epithelioid angiosarcoma is a rare vascular tumour composed of a proliferation of cytologically malignant epithelioid endothelial cells. These tumours are fully malignant and can pursue a rapidly progressive course. A case of primary epithelioid angiosarcoma of the maxilla is presented. Also discussed is a review of the literature with emphasis on the concept of epithelioid endothelial cell tumours. Author.

Inverted papilloma: evaluation with MR imaging. Yousem, D. M., Fellows, D. W., Kennedy, D. W., Bolger, W. E., Kashima, H., Zinreich, S. J. Department of Radiology, Hospital of the University of Pennsylvania, Philadelphia 19104. *Radiology* (1992) November, Vol. 185 (2), pp. 501–5.
The authors examined the magnetic resonance (MR) appearance of inverted papillomas to determine if this histologically benign lesion could be distinguished from malignancies of the sinonasal cavity. MR images in 10 patients with histologically proved inverted papilloma were retrospectively reviewed. The signal intensity of inverted papillomas on short repetition time (TR) images was iso- to slightly hyperintense to muscle in all 10 patients. Inverted papillomas had intermediate signal intensity on the long TR/echo time (TE) images. The tumours were iso- or slightly hypointense to fat on long TR/short TE images. In the seven patients who received gadopentetate dimeglumine, all inverted papillomas showed solid inhomogeneous enhancement. A review of eight sinonasal malignancies showed no distinctive signal intensity or enhancement characteristics to help differentiate inverted papillomas from various malignant tumours. The authors conclude that there is no signature MR appearance for the benign inverted papilloma. The main utility of MR imaging is in defining the extent of the lesion. Author.