

Abstract selection

Event-related potentials (P300) in myotonic dystrophy. Hanafusa, H., Motomura, N., Asaba, H., Sakai, T., Kawamura, H. Department of Neuropsychiatry, Osaka Medical College, Takatsuki, Japan. *Acta Neurologica Scandinavica* (1989) Aug, Vol. 80 (2), pp. 11–3.

The P300 component of the auditory event-related potential in eight patients with myotonic dystrophy was studied and compared with that of 13 healthy controls. Abnormalities of P300 (prolongation of the latency and/or decrease of the amplitude) were observed in six. These observations imply that the function of cognitive and information processing are impaired in myotonic dystrophy. Author.

EEG and CT abnormalities in xeroderma pigmentosum. Mimaki, T., Tagawa, T., Tanaka, J., Sato, K., Yabuuchi, H. Department of Pediatrics, Osaka University Medical School. *Acta Neurologica Scandinavica* (1989) Aug, Vol. 80 (2), pp. 136–41.

Xeroderma pigmentosum associated with neurological abnormalities is a less familiar neurocutaneous disorder. In this report, 35 patients with group A xeroderma pigmentosum were assessed for neurological complications. Of these, 17 showed microcephaly and 24 mental retardation. Of 25 patients over seven years of age, 22 had sensorineural deafness and 12 showed spinocerebellar signs such as nystagmus, dysarthria, tremor and ataxia, while none below seven years of age had such neurological complications. Thirty-five EEG studies were performed on 29 patients, and 15 showed intermittent spindles of grouped theta waves with abnormal slow background activity and a poorly developed alpha rhythm, suggesting immature brain development or a regression from normal brain function in many areas including the diencephalon. Twenty-six patients were examined by cranial CT scan, of whom 20 showed abnormal CT findings such as ventricular dilatation, diffuse cortical atrophy, and marked thickening of the calvarial bones. The incidence of abnormal EEG and CT findings increased with advancing age in accordance with the development of neurological complications in the CNS, thus suggesting a chronic progressive degenerative disease. Author.

Magnetic resonance imaging—a method of studying the size and asymmetry of the planum temporale. Larsen, J. P., Odgaard, H., Grude, T. H., Høien, T. Department of Neurology, Central Hospital of Rogaland, Stavanger, Norway. *Acta Neurologica Scandinavica* (1989) Nov, Vol. 80 (5), pp. 438–43.

The planum temporale is a triangular region on the upper surface of the temporal lobe. This area of the brain is important for language processing and shows a left-right asymmetry of size in most brains. Particular interest has been focused on the size and asymmetry of the planum temporale in brains of individuals with developmental dyslexia. Magnetic resonance imaging (MRI) is a method that produces excellent morphological details of organic structures. We have developed an MRI method of studying the size and asymmetry of the planum temporale in human brains. Because of considerable variation of anatomical landmarks in this cortical region of the brain, an evaluation of asymmetry is not possible in all brains. Furthermore, our experience with this method indicates that any indirect imaging technique of studying asymmetry of the planum temporale must be evaluated with caution. With this in mind, however, MRI may give valuable anatomical information about the planum temporale in individuals with anomalous language function. Author.

Frequency and intensity of late asthmatic reactions after bronchial allergen challenge in asthma and rhinitis. Stevens, W. J., van Bever, H. P. Immunology and Pediatrics, University of Antwerp, Belgium. *Allergy* (1989) Sep, Vol. 44 (7), pp. 471–6.

The occurrence of late asthmatic reactions after bronchial allergen challenge was studied in 50 house dust mite allergic patients subdivided in three groups: one group had asthma without nasal symp-

toms, another group had rhinitis without pulmonary symptoms and a third group had a combination of both asthma and rhinitis. Late asthmatic reactions were present in 80 per cent of asthmatic patients and in 18.7 per cent of rhinitis patients. The degree of non-specific bronchial reactivity to histamine (provocative dose 15 or PD15 histamine) and the degree of immediate reactivity to allergen (PD15 house dust mite) did not differ significantly between patients with and without late asthmatic reactions. These findings suggest that an important difference between asthma and rhinitis is the lack of late asthmatic reactions in rhinitis patients, whereas the degree of immediate bronchial reactivity to the allergen is similar in asthma and rhinitis. Author.

Histamine nasal provocation test. An evaluation of active anterior rhinomanometry and of threshold criteria of provocative dose. Van de Heyning, P. H., Van Haesendonck, J., Creten, W., de Saegher, D., Claes, J. Dept. of Otorhinolaryngology and Head and Neck Surgery, University of Antwerp, Belgium. *Allergy* (1989) Sep, Vol. 44 (7), pp. 482–6.

This study is a methodological approach to histamine nasal provocation. The test uses active anterior rhinomanometry and a histamine titration method, challenging both nasal cavities with a metered dose pump. It has been confirmed that the histamine nasal provocation test can differentiate between controls and non-allergic rhinitis patients. This study shows, moreover, that the method is more sensitive in assessing response to histamine provocation when a 25 per cent increase of post-saline nasal airway resistance (PD25) is considered than a PD50 or PD100 criterion. The histamine response, was found to be independent of the baseline nasal airway resistance value. Pronounced unilateral responsiveness was frequently noticed. Both nasal cavities should be challenged and the most reactive side considered. Author.

Aminoglycoside ototoxicity in cystic fibrosis. Evaluation by high-frequency audiometry. McRorie, T. I., Bosso, J., Randolph, L. Department of Pharmacy Practice, School of Pharmacy, University of Utah, Salt Lake City. *American Journal of Diseases of Children* (1989) Nov, Vol. 143 (11), pp. 1328–32.

In this study, we sought to determine the clinical usefulness of high-frequency and audiometry (8000 to 20,000 Hz) in detecting aminoglycoside-induced increases in pure-tone hearing thresholds before they are noticed in conventionally tested frequencies. We measured hearing thresholds from 250 to 20,000 Hz in 22 patients with cystic fibrosis who were treated with aminoglycosides. The audiograms were age-matched and were compared with those from 13 patients with cystic fibrosis and 38 subjects without cystic fibrosis, all of whom had never received aminoglycoside therapy. In patients with cystic fibrosis who were treated with aminoglycosides (younger than 20 years), there were statistically significant elevations only in frequencies higher than 16,000 Hz. Patients with cystic fibrosis who were treated with aminoglycosides who were 20 years and older had elevated thresholds in all frequencies tested. Patients with cystic fibrosis who were not treated with aminoglycosides did not differ statistically from controls. High-frequency audiometry may serve as a useful measure of elevation in pure-tone hearing thresholds that precede noticeable loss of auditory acuity in patients with cystic fibrosis who are receiving long-term aminoglycoside therapy. Author.

Prophylaxis of recurrent acute otitis media and middle-ear effusion. Comparison of amoxicillin with sulfamethoxazole and trimethoprim. Principi, N., Marchisio, P., Massironi, E., Grasso, R. M., Filiberti, G. Department of Pediatrics, University of Milan, Italy. *American Journal of Diseases of Children* (1989) Dec, Vol. 143 (12), pp. 1414–8.

We compared the efficacy of amoxicillin with that of the combination drug sulfamethoxazole and trimethoprim in reducing recurrences of acute otitis media (AOM) in a single-blind, randomized,

placebo-controlled trial involving 96 children. Each of the children had had three or more episodes of AOM in the preceding six months, and 97 per cent (93/96) of them still had unilateral or bilateral effusion at the beginning of the study. During the six month study period, nine (27 per cent of 33 of the children in the amoxicillin group developed nine episodes of AOM, nine (27 per cent) of 33 of the children in the sulfamethoxazole and trimethoprim group experienced 11 episodes of AOM, and 19 (63%) of 30 of the children in the placebo group developed 25 episodes. Young age and day-care attendance characterized children for whom prophylaxis was more efficacious. Overall persistence of middle-ear effusion was shorter in treated children only as a consequence of the reduced number of new episodes of AOM. Author.

Use of recombinant activated factor VII for treatment of a retropharyngeal hemorrhage in a hemophilic patient with a high titer inhibitor. Macik, B. G., Hohneker, J., Roberts, H. R., Griffin, A. M. Department of Medicine, School of Medicine, University of North Carolina, Chapel Hill. *American Journal of Hematology* (1989) Nov, Vol. 32 (3), pp. 232-4.

Treatment options during an acute hemorrhage for a hemophilic patient who has an inhibitor (antibody) to factor VIII (FVIII) are limited. If the inhibitor titer is high, even massive doses of FVIII are not sufficient to neutralize the antibody. Likewise, immunoadsorption techniques or plasmapheresis cannot remove enough antibody to permit treatment with FVIII. Allergic reactions and cross-reacting inhibitors complicate therapy with porcine FVIII. Prothrombin complex concentrates (PCC) may be effective but the mechanism is unclear. The theory that activated factor VII (FVIIa) is the active principle in PCC prompted our treatment of a patient with a recombinant FVIIa (rFVIIa) product (NOVO Industries). The patient presented with a large retropharyngeal hemorrhage and an initial inhibitor titer of 129 Bethesda units (BU). Despite Autoplex therapy (100U/kg), tracheal compression by the hematoma increased and asphyxiation was imminent. rFVIIa therapy (60 micrograms/kg) was substituted for Autoplex and nine doses were given without complication. The hemorrhage was controlled. By 18 hr breathing was normal and swallowing and speech were greatly improved. Clinically, the patient dramatically responded to rFVIIa. In addition, the purity, the lack of known infectious agents, and the ease of administration make rFVIIa a potentially attractive new therapy. Use of this product also promises to further our understanding of in vivo hemostasis. Author.

Occupation and squamous cell cancers of the pharynx and sinonasal cavity. Vaughan, T. L. Division of Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA 98104. *American Journal of Industrial Medicine* (1989) Nov, Vol. 16 (5), pp. 493-510.

Lifetime job histories from a population-based case-control study of squamous cell carcinomas of the oro- and hypopharynx (OHPC), nasopharynx (NPC) and sinonasal cavity (SNC) were systematically examined to generate new hypotheses as well as to test previously noted associations between occupation and the cancers under study. The effects of both duration of employment in a particular job and the timing of the employment in relation to cancer diagnosis were investigated in a stratified analysis that controlled for cigarette smoking, alcohol intake, and other major risk factors. Overall, data on 231 cases and 552 controls were analyzed. Occupations at increased risk of OHPC included 'food service' workers in the 'retail trade' industry (odds ratio = 1.9; 95 per cent confidence interval = 1.0-3.6), 'vehicle mechanics' in the 'repair services' industry (OR = 2.5; CI = 0.8-8.3), 'industrial mechanics' (OR = 31.0; CI = 3.0-315.1), and 'carpenters' in the 'construction' industry (OR = 1.5; CI = 0.7-3.4). For NPC, similar patterns of increased risk were found for 'food service' workers and 'vehicle mechanics'. For 'carpenters' in the 'construction' industry, the relative risk estimate was almost five (OR = 4.8; CI = 1.2-19.4). Increases in SNC risk were noted for 'food service' workers, as well as a number of occupations in the 'lumber and wood product manufacturing' industry, including 'forestry and logging' (OR = 2.0; CI = 0.5-8.2), and 'wood working machine operators' (OR = 7.9; CI = 1.6-39.2). In each of these instances, the relative risk estimates increased with increasing duration in the job and when a 15-year induction/latency period was taken into account. Author.

Awake fiberoptic intubation for a rare cause of upper airway obstruction—an infected laryngocoele. Rashid, J., Wartier, B.

Anaesthetic Department, Mount Vernon Hospital, Northwood, Middlesex. *Anaesthesia* (1989) Oct, Vol. 44 (10), pp. 834-6.

The anaesthetic management of a patient with an infected laryngocoele is presented. The relevance of this condition to the anaesthetist is discussed. Author.

Minitracheotomy—a life threatening complication. Daborn, A. K., Harris, M. N. Department of Anaesthetics, St Thomas' Hospital, London. *Anaesthesia* (1989) Oct, Vol. 44 (10), pp. 839-40.

A 55-year-old patient developed profuse haemorrhage immediately after insertion of a minitracheotomy tube. Measured blood loss was 1.1 litres, and the bleeding required to be controlled surgically. The cause was a subglottic granuloma which had developed after prolonged tracheal intubation and which was incised during insertion of the minitracheotomy. Author.

Airway management in patients with unstable cervical spine fractures. Holley, J., Jorden, R., Division of Emergency Medicine, University of Mississippi Medical Center, Jackson. *Annals of Emergency Medicine* (1989) Nov, Vol. 18 (11), pp. 1237-9.

We conducted a retrospective study of traumatic, unstable cervical spine fractures requiring operative repair to determine the airway management technique and whether any neurologic complication resulted from the intubation. One hundred and thirty-three patients with 140 fractures were reviewed relative to fracture site, oral versus nasal route of intubation, and location of intubation (surgery versus emergency department of field). Fracture site incidence was determined as follows: C-1, ten (7.1 per cent); odontoid/C-2, 17 (12.1 per cent); C-3, eight (5.7 per cent); C-4, 21 (15.0 per cent); C-5, 41 (29.2 per cent); C-6, 38 (27.1 per cent); and C-7, five (3.5 per cent). Ten of the injuries resulted from blows to the neck or head, 25 from falls, seven from diving, and six from sports-related injuries. The remaining eighty-five patients were in motor vehicle accidents. Nine patients were nasally intubated in the ED, and one patient was orally intubated in the field. Ninety-four of the patients intubated in surgery were intubated nasally: 29 were intubated orally while in-line stabilization was maintained. No neurologic complications occurred in any patient. These data suggest that, under controlled circumstances, patients with unstable cervical spine fractures can be safely intubated with standard, nonsurgical approaches. Author.

Delayed pedicle separation in forehead flap nasal reconstruction. Kroll, S. S., Rosenfield, L. Section of Plastic Surgery, University of Texas, M.D. Anderson Cancer Center, Houston 77030. *Annals of Plastic Surgery* (1989) Oct, Vol. 23 (4), pp. 327-34, discussion 335-6.

Nasal reconstructions with midline forehead flaps are often plagued by inadequate tip projection and excessively thick alar rims. These problems can be overcome by a combination of preliminary tissue expansion, which gains extra length, and delayed pedicle separation, which allows aggressive thinning of alar rims and shaping of the tip while its blood supply is still fully intact. Only when tip-shaping is completed is the pedicle divided and the reconstruction completed. In our experience this combination of increased flap length and improved tip shape has led to better tip projection and superior overall results. Three representative cases that demonstrate these principles are presented. Author.

Contributions of temporal-parietal junction to the human auditory P3. Knight, R. T., Scabini, D., Woods, D. L., Clayworth, C. C. Department of Neurology, University of California, Davis. *Brain Research* (1989) Nov 13, Vol. 502 (1), pp. 109-16.

The P3 component of the event-related potential (ERP) is generated in humans and other mammalian species when attention is drawn to infrequent stimuli. We assessed the role of subregions of human posterior association cortex in auditory P3 generation in groups of patients with focal cortical lesions. Auditory P3s were recorded to target (P3b) and unexpected novel stimuli (P3a) in monaural and dichotic signal detection experiments. Two groups of patients were studied with lesions of (1) temporal-parietal junction including posterior superior temporal plane and adjacent caudal inferior parietal cortex; and (2) the lateral parietal lobe including the rostral inferior parietal lobe and portions of superior parietal lobe. Extensive lateral parietal cortex lesions had no effect on the P3. In contrast, discrete unilateral lesions centered in the posterior superior temporal plane eliminated both the auditory P3b and P3a at electrodes over the posterior scalp. The results indicate that auditory association cortex in the human temporal-parietal junction is critical for auditory P3 generation. Author.

Peroxidase backfills suggest the mammalian olfactory epithelium contains a second morphologically distinct class of bipolar sensory neuron: the microvillar cell. Rowley, J. C., Moran, D. T., Jafek, B. W. Department of Cellular and Structural Biology, University of Colorado School of Medicine, Denver 80262. *Brain Research* (1989) Nov 20, Vol. 502 (2), pp. 387–400.

The olfactory epithelium of man, rat and some other mammals consists of four cell types: ciliated olfactory receptors, microvillar cells, supporting (sustentacular) cells, and basal cells. Of these, the microvillar cell is least well understood: its function is unknown. In this study, a hypothesis is put forth: that the microvillar cells in the mammalian olfactory epithelium comprise a morphologically distinct class of sensory receptor. The hypothesis is tested by injecting the cytochemical tracer macromolecule horseradish peroxidase (HRP) into the olfactory bulb of the rat, and observing its pattern of uptake in the olfactory epithelium by light and electron microscopy. In these experiments, ciliated olfactory receptors and microvillar cells backfilled with HRP: supporting and basal cells did not. The data, which support the hypothesis, indicate the microvillar cells, along with the ciliated olfactory receptors, send axons to the olfactory bulb. Consequently, it is concluded that the microvillar cell is a sensory bipolar neuron, with the cell body in the olfactory epithelium, that sends a dendrite to the site of stimulus reception at the free surface of the olfactory epithelium, and in axon to the olfactory bulb in the brain. The similarity of microvillar cells in the olfactory epithelium to 'brush cells' found throughout the respiratory tract is discussed in detail. Author.

Osteomyelitis of the mandible in sickle cell homozygous patients in Nigeria. Iwu, C. O. School of Dentistry, University of Benin, Nigeria. *British Journal of Oral and Maxillofacial Surgery* (1989) Oct, Vol. 27 (5), pp. 429–34.

Osteomyelitis of the mandible is a very rare complication of sickle cell disease. Three cases of chronic osteomyelitis of the mandible complicating sickle cell disease were seen over a period of nine years at the University of Benin Dental Hospital, Benin City, Nigeria. A brief review of the current understanding of the pathogenesis of sickle cell disease is given with a suggested non-radical approach to sequestrectomy. Author.

A clinicopathologic study of malignant lymphomas of the nose, paranasal sinuses, and hard palate, including cases of lethal midline granuloma. Ratch, H., Burke, J. S., Blayney, D. W., Sheibani, K., Rappaport, H. James Irvine Center for the Study of Leukemia and Lymphoma, Division of Pathology, Duarte, California. *Cancer* (1989) Dec 15, Vol. 64 (12), pp. 2525–31.

Malignant lymphomas of the nose, paranasal sinuses, and hard palate show marked clinicopathologic, immunologic, and prognostic diversity. The clinical features and pathologic spectrum of these lesions were studied in 20 cases (11 female and nine male cases) with a mean age of 51 years at initial presentation. Malignant lymphomas of the large cell type were most frequently encountered (11/20). The next largest category was malignant lymphoma, diffuse, mixed small and large cell type (six of 20). Two thirds, 13 of 20 cases, had morphologic features suggestive of peripheral T-cell lymphomas. Necrosis, an angiocentric growth pattern, and epitheliotropism were found in nine, eight and three cases, respectively. Of ten cases immunophenotyped on fresh-frozen or fixed, paraffin-embedded tissue sections, eight had a T-cell phenotype and two had a B-cell phenotype. Of 17 patients with sufficient follow-up data, ten are alive (median follow-up 33 months) and seven are dead (median survival 12 months). Patients with clinical Stages IE and IIE did not have a superior five year survival to those with more advanced disease. Histologic type also did not correlate with survival but this may be due to the aggressive histologic grade of the majority of cases and the retrospective nature of this study. The authors conclude that, despite the overall high-grade histologic type, the pathologic spectrum of malignant lymphomas involving this anatomic region is broad. Furthermore, some cases do not fit well into the National Cancer Institute (NCI) Working Formulation but more closely resemble the histologic features of peripheral T-cell lymphomas described in Japan. Author.

Esophageal acid perfusion, airway function, and symptoms in asthmatic patients with marked bronchial hyperreactivity. Ekstrom, T., Tibbling, L. Department of Lung Medicine, University Hospital, Linköping, Sweden. *Chest* (1989) Nov, Vol. 96 (5), pp. 995–8.

It is believed that GER can trigger asthma by the stimulation of acid-sensitive receptors in the esophagus. The aim of this study was

to determine whether esophageal acid stimulation in asthmatic patients can provoke clinically detectable bronchospasm and if a possible response is correlated to bronchial reactivity. Eight patients with chronic asthma and GER disease were investigated on three occasions with a histamine challenge test followed by acid provocation of the esophagus. Assessment of bronchial function was made by FEV1, chest auscultation, and respiratory symptoms. While symptoms and signs of bronchoconstriction induced by esophageal acid stimulation were not detected clinically on any occasion, there was a significant correlation between histamine reactivity and the subclinical bronchospasm following acid provocation. It is concluded that esophageal acid stimulation during daytime in the majority of asthmatic patients is not a strong and immediate trigger of asthma. Author.

Partitioning model nasal airway resistance into its nasal cavity and velopharyngeal components. Smith, B. E., Fiala, K. J., Guyette, T. W. Department of Pediatrics, University of Illinois College of Medicine, Chicago. *Cleft Palate Journal* (1989) Oct, Vol. 26 (4), pp. 327–30, discussion 331.

Nasal respiration may be assessed as part of the diagnosis and management of persons with orofacial growth disturbances. It is often evaluated by calculating nasal airway resistance do not provide information about nasal cavity versus velopharyngeal resistance components. A method that partitions nasal airway resistance into its nasal cavity and velopharyngeal components would provide a localized measurement of airway obstruction useful in evaluating the effects of surgical reconstruction of the velopharynx, enlarged adenoids, adenoidectomy, and nasal cavity obstructions along the nasal airway. A modeling project is presented delineating a method for partitioning nasal airway resistance into its nasal cavity and velopharyngeal components. Author.

The association of facial palsy and/or sensorineural hearing loss in patients with hemifacial microsomia. Bassila, M. K., Goldberg, R. Department of Otolaryngology, Montefiore Medical Center, Bronx, NY 10467. *Cleft Palate Journal* (1989) Oct, Vol. 26 (4), pp. 287–91.

Hemifacial microsomia (HFM) is a common craniofacial disorder that is known to be etiologically heterogenous. Phenotypic differentiation of the various subgroups remains unresolved. A review of 50 patients with HFM has yielded data that may help explain different pathogenetic processes. Of particular interest is the association of facial nerve palsy, sensorineural hearing loss (SNHL), or both in a higher percentage of patients than expected. Twenty-two cases had microtia or anotia, and all instances of facial palsy were associated with auricular malformation. Sensorineural hearing loss was found in 16 per cent. All patients with microtia and sensorineural hearing loss had facial palsy. Ear tags or pits were found in 21 patients, only two of whom had facial palsy. In all but one case the palsy was found on the more hypoplastic side of the face. In the single exception, both sides of the face were hypoplastic. Author.

A neurophysiological study of children with reading, writing and spelling difficulties. Pinkerton, F., Watson, D. R., McClelland, R. J. Department of Otorhinolaryngology, Queens University of Belfast, Ireland. *Developmental Medicine and Child Neurology* (1989) Oct, Vol. 31 (5), pp. 569–81.

Recordings of early and late auditory evoked potentials and spectral analysis of scalp EEGs of 14 eight- and nine-year-old boys with difficulties in reading, writing and spelling were compared with those of 18 matched controls. The recordings of the poor readers lacked the normal asymmetry of central conduction time and wave amplitude in the early (brainstem) auditory evoked potentials, and late (cortical) evoked potential components were reduced in amplitude. Spontaneous EEC activity was significantly increased in power in all spectral bands, and this activity was less responsive to changes in sensory stimulation. These observations provide evidence for disturbed early and late auditory processing and altered cortical function. Correlations with behavioural measures considered to be indices of reading, writing and spelling ability support the view that the electrophysiological differences in the group of poor readers reflect a disturbance in the mechanisms subserving the acquisition of written language. These differences are consistent with a primary disturbance of selective attention, which may contribute to a less efficient cognitive strategy for the acquisition of reading skills. Author.

The relations of the mastoid segment of the facial canal to surround

structures in congenital middle ear malformations. Savic, D., Jasovic, A., Djeric, D. Clinic of Otorhinolaryngology, University Clinical Center, Belgrade, Yugoslavia. *International Journal of Pediatric Oto-Rhinolaryngology* (1989) Sep, Vol. 18 (1), pp. 13–19. The authors investigated the relations between the mastoid segment of the facial canal and the temporomandibular joint, the posterior wall of the cavum tympani and the external wall of the mastoid process in 19 cases with congenital ear malformations and 10 cases with normal ears. A significantly reduced distance was found between the facial canal and the temporomandibular joint as well as between the facial canal and the posterior wall of the cavum tympani in the groups with malformed ears as compared to the control group with normal ears. Author.

Audiological findings of shunt-treated hydrocephalus in children. Lopponen, H., Sorri, M., Serlo, W., von-Wendt, L. Department of Otolaryngology, University of Oulu, Finland. *International Journal of Pediatric Oto-Rhinolaryngology* (1989) Sep, Vol. 18 (1), pp. 21–30.

Forty-seven hydrocephalic children (mean age 10.4 years) were examined on average 7.9 years after initial shunting. The etiology of hydrocephalus was classified into five groups as follows: perinatal intraventricular hemorrhage 19, congenital obstructive hydrocephalus 15, intracranial cysts five, severe intracranial anomalies four and central nervous system infections four children. Audiological examination included pure-tone audiometry, tympanometry, registration of stapedius reflex thresholds and adaptation. A sensorineural high-frequency hearing loss was found in 18 (38%) of 47 examined shunt-treated hydrocephalic children, and 11 of the losses could be classified as the retrocochlear type. The differences of the mean hearing thresholds between the etiological groups of childhood hydrocephalus were minimal. Author.

The treatment of advanced juvenile nasopharyngeal angiofibroma. McGahan, R. A., Durrance, F. Y., Parke, R. B. Jr., Easley, J. D., Chou, J. L. Radiation Oncology, Methodist Hospital, Baylor College of Medicine, Houston, Texas. *International Journal of Radiation Oncology, Biology and Physics* (1989) Nov, Vol. 17 (5), pp. 1067–72.

Fifteen patients with juvenile nasopharyngeal angiofibroma (JNA) were treated in the Department of Radiation Oncology, Baylor College of Medicine between 1973 and 1986. All patients underwent radiographic evaluation including CT scanning, selective digital subtraction angiography, tomograms, or MRI. Patients referred for definitive irradiation exhibited extensive tumor involvement. Eleven of 15 patients had middle cranial fossa involvement; cavernous sinus extension was observed in six patients. Ten patients were treated with primary radiation therapy; five patients had surgical resection initially and were referred for radiation therapy upon local recurrence. Follow-up ranges from 1½–13 years. Four of the five patients who received 3200 cGy in 200 cGy fractions demonstrated tumor recurrence within two years after irradiation. All recurrences were ultimately controlled by either further irradiation and/or resection. No tumor recurrence was encountered among the patients treated at the higher tumor doses (36–46 Gy). No severe complications have been observed. Radiation therapy utilizing carefully tailored fields is an appropriate therapeutic approach to patients with extensive disease or intracranial extension. A total dose of greater than 40 Gy may allow improved local control for advanced lesions. Author.

Hyperfractionated radiotherapy in the treatment of squamous cell carcinomas of the supraglottic larynx. Wendt, C. D., Peters, L. J., Ang, K. K., Morrison, W. H., Maor, M. H., Goepfert, H., Oswald, M. J. University of Texas M. D. Anderson Cancer Center, Houston 77030. *International Journal of Radiation Oncology, Biology and Physics* (1989) Nov, Vol. 17 (5), pp. 1057–62.

From January 1984 through December 1987, 41 patients with squamous cell carcinomas of the supraglottic larynx were treated with hyperfractionated radiotherapy at The University of Texas M. D. Anderson Cancer Center. Two patients had T1 primary tumors, 23 had T2, 15 had T3 and one had T4; 29 patients had no clinical evidence of nodal disease in the neck, four had N1, five had N2 and three had N3. Radiotherapy was delivered in 120 cGy fractions twice per day, with at least 4 hr between treatments. Total doses ranged from 7200 to 7900 cGy (median, 7680 cGy). Three patients had planned neck dissections before or after radiotherapy, and three patients with fixed vocal cord lesions were treated with pre-radiation chemotherapy. At the time of analysis, median follow-up

was 22 months. Four patients have had failures at the primary tumor site. There has been one recurrence in the neck in a patient who also had a recurrence at the primary site. Three of the four patients with recurrences have been successfully treated with salvage surgery. Exclusive of surgical salvage, the actuarial disease-free local control rates above the clavicles in the 38 patients with T2 and T3 cancers were 96 per cent at one year and 87 per cent at two years. In comparison, the rates were 82 per cent and 76 per cent for a group of 98 patients with T2 and T3 lesions treated at this institution from 1970 to 1981 with 6500–7000 cGy given in 200 cGy fraction per day. As predicted, acute reactions were more severe but late complications were not increased in patients who received hyperfractionated radiotherapy compared with those treated by conventionally fractionated therapy. Only two patients have developed severe late complications one of whom required laryngectomy. Hyperfractionated radiotherapy appears to provide improved local control with a similar incidence of late complications when compared with conventionally fractionated therapy. To further improve the therapeutic ratio, our current protocol has been amended by reducing the large field dose per fraction to 110 cGy (with a two day protraction of overall time) and requiring a minimum interfraction interval of 6 hr. Author.

Measurement of the glottal impedance with a mechanical model.

Rosler, S., Strube, H. W. Drittes Physikalisches Institut, Universität Göttingen, Federal Republic of Germany. *Journal of the Acoustical Society of America* (1989) Nov, Vol. 86 (5), pp. 1708–16. An approximate but realistic model of the human larynx was constructed to gain better knowledge of the complex glottal impedance and its dependence on glottal width, flow and frequency. The glottal width was adjustable from 0 to 3 mm, the flow from 0 to 500 cm³/s. The model was fitted into a system of tubes, through which compressed air could be conducted. Supraglottally, a broadband signal was fed into the tube, and, with a two-microphone directional coupler, the complex glottal impedance at a given reference plane was directly determined as a function of frequency. Since the calculated impedance is sensitively dependent on the definition of the position of the reference plane, it is difficult to obtain quantitative statements about the frequency dependence. Nevertheless, in the presence of flow, it is possible to achieve reliable results by analysis of the relative position of the measured curves. On the one hand, the glottal inductance decreases linearly with increasing flow velocity; on the other hand, it diminishes nonlinearly with decreasing frequency. Finally, some difficulties in the definition of glottal impedance are pointed out. Author.

Evaluation of two multichannel tactile aids for the hearing impaired. Weisenberger, J. M., Broadstone, S. M., Saunders, F. A. Central Institute for the Deaf, St. Louis, Missouri 63110. *Journal of the Acoustical Society of America* (1989) Nov, Vol. 86 (5), pp. 1764–75.

Two multichannel tactile devices for the hearing impaired were compared in speech perception tasks of varying levels of complexity. Both devices implemented the 'vocoder' principle in their stimulus processing: One device had a 16-element linear vibratory array worn on the forearm and displayed activity in 16 overlapping frequency channels; the other device delivered tactile stimulation to a linear array of 16 electrodes worn on the abdomen. Subjects were tested in several phoneme discrimination tasks, ranging from discrimination of pairs of words differing in only one phoneme under tactile aid alone conditions to identification of stimuli in a larger set under tactile aid alone, lipreading alone, and lipreading plus tactile aid conditions. Results showed both devices to be better transmitters of manner and voicing features of articulation than of place features, when tested in single-item tasks. No systematic differences in performance with the two devices were observed. However, in a connected discourse tracking task, the vibrotactile vocoder in conjunction with lipreading yielded much greater improvements over lipreading alone than did the electro-tactile vocoder. One possible explanation for this difference in performance, the inclusion of a noise suppression circuit in the electro-tactile aid, was evaluated, but did not appear to account for the differences observed. Results are discussed in terms of additional differences between the two devices that may influence performance. Author.

Binaural speech intelligibility in noise for hearing-impaired listeners. Bronkhorst, A. W., Plomp, R. Department of Otolaryngology, Free University Hospital, Amsterdam, The Netherlands.

Journal of the Acoustical Society of America (1989) Oct, Vol. 86 (4), pp. 1374–83.

The effect of head-induced interaural time delay (ITD) and interaural level differences (ILD) on binaural speech intelligibility in noise was studied for listeners with symmetrical and asymmetrical sensorineural hearing losses. The material, recorded with a KEMAR manikin in an anechoic room, consisted of speech, presented from the front (0 degree), and noise, presented at azimuths of 0 degree, 30 degrees, and 90 degrees. Derived noise signals, containing either only ITD or only ILD, were generated using a computer. For both groups of subjects, speech-reception thresholds (SRT) for sentences in noise were determined as a function of: (1) noise azimuth, (2) binaural cue, and (3) an interaural difference in overall presentation level, simulating the effect of a monaural hearing aid. Comparison of the mean results with corresponding data obtained previously from normal-hearing listeners shows that the hearing impaired have a 2.5 dB higher SRT in noise when both speech and noise are presented from the front, and 2.6–5.1 dB less binaural gain when the noise azimuth is changed from 0 degree to 90 degrees. The gain due to ILD varies among the hearing-impaired listeners between 0 dB and normal values of 7 dB or more. It depends on the high-frequency hearing loss at the side presented with the most favorable signal-to-noise (S/N) ratio. The gain due to ITD is nearly normal for the symmetrically impaired (4.2 dB, compared with 4.7 dB for the normal hearing), but only 2.5 dB in the case of asymmetrical impairment. When ITD is introduced in noise already containing ILD, the resulting gain is 2–2.5 dB for all groups. The only marked effect of the gain due to ILD when the level at the ear with the better S/N ratio is decreased. This implies that an optimal monaural hearing aid (with a moderate gain) will hardly interfere with unmasking through ITD, while it may increase the gain due to ILD by prevention or diminishing threshold effects. Author.

Efficacy and safety of loratadine (10 mg once daily), terfenadine (60 mg twice daily), and placebo in the treatment of seasonal allergic rhinitis. Del-Carpio, J., Kabbash, L., Turenne, Y., Prevost, M., Hebert, J., Bedard, P. M., Nedilski, M., Gutkowski, A., Schulz, J. Division of Allergy and Immunology, Royal Victoria Hospital, Montreal, Quebec, Canada. *Journal of Allergy and Clinical Immunology* (1989) Nov, Vol. 84 (5 Pt 1), pp. 741–6.

A total of 317 patients received loratadine, 10 mg once daily terfenadine 60 mg twice daily, or placebo in a 14-day, double-blind, randomized study in seasonal allergic rhinitis. Four nasal and four nonnasal symptoms were evaluated. At the end point evaluation, mean total scores of combined nasal and nonnasal symptoms decreased from baseline (improved) 46 per cent, 44 per cent and 35 per cent, respectively, for loratadine, terfenadine, and placebo. The difference between loratadine and placebo treatment was significant ($P = 0.03$). Loratadine was particularly effective compared with placebo in relieving nasal discharge, sneezing, and itching/burning eyes. Therapeutic response to treatment was good or excellent in 66 (64 per cent) of 103 loratadine-treated patients, 58 (56 per cent) of 104 terfenadine-treated patients, and 48 (47 per cent) of 102 placebo-treated patients. Adverse experiences reported during the study were usually mild or moderate and were not significantly different among the three treatment groups. Sedation (somnolence) was reported by 10 loratadine-treated patients, seven terfenadine-treated patients, and eight placebo-treated patients. Loratadine, 10 mg once daily, was comparable to terfenadine, 60 mg twice daily, and significantly superior to placebo in the symptomatic relief of seasonal allergic rhinitis. Author.

Lymphocytes and non-lymphoid cells in the nasal mucosa of patients with nasal polyps and of healthy subjects. Stoop, A. E., Hameleers, D. M., v-Run, P. E., Biewenga, J., van der Baan, S. Department of Otorhinolaryngology/Head and Neck Surgery, Free University Hospital, Amsterdam, The Netherlands. *Journal of Allergy and Clinical Immunology* (1989) Nov, Vol. 84 (5 Pt 1), pp. 734–41.

Immunohistochemical stainings were performed on biopsy specimens of the middle and inferior turbinates of the nasal mucosa of 14 patients with nasal polyps and 16 healthy subjects. Significantly more CD8+ (T suppressor/cytotoxic) cells than CD4+ (T helper/inducer) cells were found in the lamina propria of the middle and inferior turbinates of patients with nasal polyps and in the inferior turbinates of healthy subjects contained significantly more CD4+ cells than the middle and inferior turbinates of patients with nasal polyps. CD19+ B cells were hardly detected in the patients and healthy subjects. More HLA-DR+ cells were found in the middle

than in the inferior turbinate, especially in the patients. Varying but small numbers of eosinophils, neutrophils, mast cells, and plasma cells were found in patients and healthy subjects. The possible role of CD4+, CD8+ and HLA-DR+ cells in the nasal mucosa is discussed with regard to the pathogenesis of nasal polyps. Author.

Nasal cartilage fenestration in the application of full-thickness skin grafts. Adnot, J., Hoffman, B. E. *J Dermatological Surgery and Oncology* (1989) Nov, Vol. 15 (11), pp. 1231–4.

A technique is described that enables the application of full-thickness skin grafts to bare cartilage exposed in surgical wounds on the nose. By fenestrating the cartilage so that the lining on the inner side is exposed, the graft is able to receive a blood supply adequate for its survival. Author.

Congenital cytomegalovirus labyrinthitis and sensorineural hearing loss in guinea pigs. Woolf, N. K., Koehn, F. J., Harris, J. P., Richman, D. D. Department of Surgery, University of California, San Diego Medical Center, 92103. *Journal of Infectious Diseases* (1989) Dec, Vol. 160 (6), pp. 929–37.

Cytomegalovirus (CMV) is the leading cause of human nonhereditary congenital deafness. The pathogenesis of congenital CMV infection in the auditory system is poorly understood and no suitable animal model is currently recognized. In this study primary maternal CMV infection in guinea pigs during the first or second trimester of pregnancy resulted in congenital infection in 64 per cent of the offspring. Of the congenitally infected neonates, 28 per cent had significant auditory deficits. Within the inner ear, CMV infection was localized in auditory nerve spiral ganglion cells. These findings indicate that congenital CMV infection of the guinea pig results in physiologic and anatomic neuropathology similar to that seen in human infection and provide the first experimental model for congenital CMV-induced sensorineural hearing loss. Author.

Otitis media in children. I. The systemic immune response to nontypable *Hemophilus influenzae*. Faden, H., Bernstein, J., Brodsky, L., Stanievich, J., Krystofik, D., Shuff, C., Hong, J. J., Ogra P. L. Department of Pediatrics, State University of New York, School of Medicine, Buffalo. *Journal of Infectious Diseases* (1989) Dec, Vol. 160 (6), pp. 999–1004.

Twenty-one infants experienced 29 episodes of otitis media with effusion caused by nontypable *Hemophilus influenzae* (NTHI) during 2 y of observation. Bactericidal antibody was detected in acute serum of 26 per cent of the subjects at a mean titer of 0.8 ± 0.3 (log 2) and was observed in convalescent serum of all of the individuals at a mean titer of 4.0 ± 0.3 (log 2, P less than 0.001). The serum bactericidal antibody response was not age-dependent ($r = 0.08$, P greater than 0.05). Serum concentrations of bactericidal antibody remained stable for the entire observation period in 90 per cent of the children. The presence of serum bactericidal antibody correlated significantly with a reduction in the number of bacteria present in the middle ear fluid (P less than 0.025). Eight children experienced a second episode of otitis media with effusion caused by a different serotype of NTHI. All those who lacked bactericidal antibody against the organism causing the second episode possessed bactericidal antibody against the first strain at the time of the second episode. These data suggest that the immune response to NTHI in otitis media with effusion is type-specific. The occurrence of second episodes of otitis media with effusion due to different strains of NTHI in the face of preexisting heterologous bactericidal antibody suggests a lack of cross-protection. Author.

Surgery for acoustic neurinoma. An analysis of 100 translabyrinthine operations. Hardy, D. G., Macfarlane, R. Baguley, D., Mofat, D. A. Department of Neurosurgery, Addenbrooke's Hospital, Cambridge, England. *Journal of Neurosurgery* (1989) Dec, Vol. 71 (6), pp. 799–804.

A consecutive series of 100 translabyrinthine operations for removal of acoustic neurinoma is reported. Complete tumour removal was achieved in 97 per cent of cases. There were three perioperative deaths, and the postoperative morbidity rate was low. The facial nerve was preserved anatomically in 82 per cent of patients. Preoperative facial weakness and tumour size larger than 2.5 cm were predictive of poor facial recovery. In patients with an intact nerve but complete facial palsy one week after surgery, electro-neuronography was a good predictor of the final facial outcome and may influence the timing of rehabilitative procedures. With the

exception of patients who have small tumours and good speech discrimination (where a suboccipital approach may preserve hearing acuity), the translabyrinthine operation is the procedure of choice for removal of acoustic neurinomas in patients who have normal hearing in the contralateral ear. Author.

Nasal cancer among North American woodworkers: another look. Finkelstein, M. M. Health Studies Service, Ontario Ministry of Labour, Toronto, Canada. *Journal of Occupational Medicine* (1989) Nov, Vol. 31 (11), pp. 899–901.

A death certificate case-control study of sinonasal cancer in Ontario has found increased relative risks among wood-workers. The results from four North American studies have been combined using the Mantel-Haenszel method, and the relative risk for wood-workers has been found to be 1.6 (P less than .01). It is concluded that North American softwoods, as well as hardwoods, may contain carcinogenic substances or their precursors. Author.

Biochemical and cardiovascular measures in subjects with noise-induced hearing loss. Gold, S., Haran, I., Attias, J., Shapira, I., Shahar, A. Institute for Noise Hazards Research, I.D.F., Chaim Sheba Medical Center, Ramat Gan, Israel. *Journal of Occupational Medicine* (1989) Nov, Vol. 31 (11), pp. 933–7.

Reports on a potential relationship between noise-induced hearing loss (NIHL) and cardiovascular as well as biochemical measures in subjects with NIHL with those in subjects exposed to similar occupational noise, but demonstrating normal hearing. This might indicate certain predisposing factors for NIHL. Eight hundred noise-exposed subjects were divided into two age-matched hearing groups (NIHL and normal hearing). The results showed that the mean values of all the variables examined in both hearing groups were within the normal range. No significant differences were found between the two groups in terms of the distribution of subjects for the indices measured. Author.

Developmental defects of the tympanic plate: case reports and review of the literature. Heffez, L., Anderson, D., Mafee, M. University of Illinois, Chicago 60612. *Journal of Oral & Maxillofacial Surgery* (1989) Dec, Vol. 47 (12), pp. 1336–40.

A complete otoscopic examination should be performed in all patients seeking treatment of temporomandibular disorders. The presence of a bulge in the external auditory meatus that disappears with mouth opening may suggest the persistence of the foramen of Huschke. The clinician should rule out the presence or history of infection, trauma, or neoplasm before ascribing the etiology of a defect to a developmental aberration. Author

Reconstruction of frontal and frontal-nasal deformities with prefabricated custom implants. Epker, B. N., Stella, J. P. John Peter Smith Hospital, Fort Worth, Texas 76104. *Journal of Oral & Maxillofacial Surgery* (1989) Dec, Vol. 47 (12), pp. 1272–6.

The use of prefabricated custom silicone rubber implants for frontal and nasofrontal deformities produces predictable esthetic results with minimal operative and postoperative morbidity and/or complications in selected patients. Over the past eight years, 15 custom silicone rubber implants have been placed with good to excellent results. Only one implant was removed due to post-operative infection. This implant was successfully replaced upon resolution of the infection. Author.

Electromyographic biofeedback and rest position training of masticatory muscles in myofascial pain-dysfunction patients. Erlandson, P. M. Jr., Poppen, R. New Haven Craniofacial Pain Center, Conn. *Journal of Prosthetic Dentistry* (1989) Sep, Vol. 62 (3), pp. 335–8.

Twenty-four women outpatients with myofascial pain-dysfunction were divided into three groups of eight. All received bilateral masseter electromyographic biofeedback training. One group received biofeedback only; one group received additional instructions and modeling to place their jaw in the 'rest' position; and one group was given a prosthetic guide that spaced the incisors 6.8 mm apart. Two 15-minute training sessions were conducted at a 1-week interval, with posttreatment assessment two weeks later. The instruction and prosthesis groups obtained significantly greater electromyographic reductions in masseter activity and increases in mandibular range of motion compared with the biofeedback-only group. Subjects with pain obtained a significant reduction in therapist and self-report pain ratings. The results suggest that short-term biofeedback treatment may be meaningfully augmented by procedures that place the mandible in the rest position. Author.

Prospective hormone study of hypothalamic-pituitary function in patients with nasopharyngeal carcinoma after high dose irradiation. Chen, M. S., Lin, F. J., Huang, M. J., Wang, P. W., Tang, S., Leung, W. M., Leung, W. Department of Radiation Oncology, Chang-Gung Memorial Hospital, Taipei, Taiwan. *Japanese Journal of Clinical Oncology* (1989) Sep, Vol. 19 (3), pp. 265–70. With the aim of evaluating the effect of high dose irradiation (6,500 cGy/36 fractions or higher) to pituitary fossa, a prospective study was carried out in patients with nasopharyngeal cancer by a serial determination of several hormones in the serum, before and after the course of radiation therapy (RT). The radiation treatment field was at least 1 cm above the skull base with bilateral parallel opposing fields. Hormone assays were performed three times on each patient: (1) prior to, (2) one month after, (3) 15–18 months after radiation therapy. The study included determination of serum luteinizing hormone (LH), follicle-stimulating hormone (FSH), thyroid-stimulating hormone (TSH), cortisol, growth hormone (GH) and prolactin concentrations and LH-releasing hormone, thyrotrophin-releasing hormone stimulation and insulin tolerance tests were also carried out. Complete profiles were obtained in 24 patients (16 males and eight females), aged 16–67 years. The results showed a significant decrease in the level of serum peak value of LH in males 18 months after therapy, and also in GH both one month and 18 months after therapy. A significant increase in the peak value of serum TSH observed after therapy. Decreased serum FSH, cortisol and prolactin levels were noted, but these did not reach statistical significance. The decrease in GH level appeared earlier and was more sensitive than that found for other hormones, and could prove to be a useful parameter for clinical evaluation. None of the patients showed any clinically recognizable symptoms or signs of hormone deficiency in the 18–33 months following completion of the radiation therapy. Author.

Three cases of oral squamous cancer associated with leukocytosis, hypercalcemia, or both. Yoneda, T., Nishikawa, N., Nishimura, R., Kato, I., Sakuda, M. Second Department of Oral and Maxillofacial Surgery, Osaka University Faculty of Dentistry. *Oral Surgery, Oral Medicine, Oral Pathology* (1989) Nov, Vol. 68 (5), pp. 604–11.

Three examples of malignant neoplasms primary to the oral cavity and associated with paraneoplastic syndromes are presented. The first case is a squamous cell carcinoma of the maxilla associated with leukocytosis. The second case is a mandibular squamous cell carcinoma associated with hypercalcemia in the absence of bony metastases. The third case is a squamous cancer of the tongue that metastasized to the lumbar vertebrae and right second rib and was associated with both hypercalcemia and leukocytosis. There was no evidence of acute infection or leukemia that could be expected to account for leukocytosis. Hypercalcemia in the second case was defined as humoral hypercalcemia of malignancy by biochemical and clinical evaluations. To our knowledge, this is the first definitive report of a carcinoma primary to the oral cavity associated with humoral hypercalcemia of malignancy. In each case, the severity of hypercalcemia, leukocytosis, or both very closely correlated with tumor growth. Surgical excision of the tumors or regression of tumor mass due to aggressive anticancer drug administration resulted in decreases in leukocyte number, serum calcium level, or both. In contrast, recurrence or regrowth of tumors induced further development of hypercalcemia, leukocytosis or both. It is therefore likely that humoral factors released by these oral carcinomas are responsible for the hypercalcemia, leukocytosis, or both. Author.

Orofacial mucormycosis. Hauman, C. H., Raubenheimer, E. J. Department of Oral Pathology and Oral Biology, Medical University of Southern Africa. *Oral Surgery, Oral Medicine, Oral Pathology* (1989) Nov, Vol. 68 (5), pp. 624–7.

Two cases of orofacial mucormycosis are reported. The first patient represents the typical progression of rhinocerebral mucormycosis with infiltration of the sinuses, the orbit, and the brain. The second patient had a tumorous maxillary lesion resembling fibrous dysplasia clinically and radiographically. Microscopically, the fungal infection in case 2 was associated with new bone formation. The significance of this phenomenon is discussed and the importance of early diagnosis and possible treatment regimens are highlighted. Author.

Osteoradionecrosis related to mastication and parafunction. Marunick, M. T., Leveque, F. Department of Otolaryngology, Wayne

State University, Harper Hospital. *Oral Surgery, Oral Medicine, Oral Pathology* (1989) Nov, Vol. 68 (5), pp. 582–5.

This article discusses mastication and parafunctional habits as possible etiologic factors in the development of osteoradionecrosis. From the three case reports presented it was noted that bone necrosis can occur after extended periods after radiation therapy, is seen most frequently in the mandible, and occurs most often at dosage levels exceeding 6500 rad. Recommendations after treatment to patients receiving 6500 rad or more should include caution regarding consistency of diet, use of existing prostheses, and the potential harmful effects of parafunctional habits. Author.

Comparison of immediate and delayed culture methods for isolation of group A streptococci. Roddey, O. F. Jr., Mauney, C. U., Clegg, H. W., Martin, E. S., Swetenburg, R. L. Charlotte Memorial Hospital, NC. *Journal of Pediatric Infectious Diseases* (1989) Oct, Vol. 8 (10), pp. 710–2.

Recovery rates of Group A beta-hemolytic streptococci in throat cultures from 300 children were studied using three different methods. The swabs were streaked onto plates immediately, streaked from the same dry swabs held at room temperature for three to six hours and streaked from swabs held in transport media at room temperature for three to six hours. The cultures were processed in a pediatric office and interpreted by a microbiologist. The recovery rates were similar for the three methods, but the cultures were easier to interpret when the swabs had been allowed to dry before streaking as a result of a decrease in the normal flora on these plates. In a separate study the recovery of Group A beta-hemolytic streptococci from 187 swabs was identical whether the swabs were streaked at three to six hours or at 18 to 24 hours. Author.

Acute acoustic trauma in Finnish conscripts. Etiological factors and characteristics of hearing impairment. Ylikoski, J. Department of Otolaryngology, Helsinki City Hospital, Laakso, Finland. *Scandinavian Audiology* (1989) Vol. 18 (3), pp. 161–5.

Etiological factors and otological and audiological findings were analysed retrospectively in 361 Finnish conscripts who had suffered acute acoustic trauma (AAT) from firearms shooting during their military service. The most common cause of AAT was shooting

with hand-held weapons without ear-protectors (50 per cent). Other common causal weapons were antitank guns (25 per cent) and cannons (12 per cent). Explosions had caused AAT in one-tenth of the cases. The tympanic membrane had been ruptured in 22 subjects (six per cent). The frequency at which hearing loss was severest was most commonly 6.0 kHz, followed by 8.0 kHz and 4.0 kHz in that order. Speech frequencies were involved in about 25 per cent of the ears. A flat type of audiometric configuration was observed in about 20 per cent and a rising type (low-tone loss) in about five per cent of the ears. Impulse noise from large-calibre guns seemed to cause low-tone hearing loss more often than shooting with hand-held weapons. Author.

Mucociliary clearance following tracheal resection and end-to-end anastomosis. Toomes, H., Linder, A. Schillerhohe Hospital, Department of Thoracic Surgery, Gerlingen/Stuttgart, FRG. *Thoracic & Cardiovascular Surgery* (1989) Oct, Vol. 37 (5), pp. 277–80.

Mucociliary clearance is an important cleaning system of the bronchial tree. The complex transport system reacts sensitively to medicinal stimuli and inhaled substances. A disturbance causes secretion retention which encourages the development of acute and chronic pulmonary diseases. It is not yet known in which way sectional resection of the central airway effects mucociliary clearance. A large number of the surgical failures are attributable to septic complications in the area of the anastomosis. In order to study the transportation process over the anastomosis, ten dogs underwent a tracheal resection using a bronchoscopic video-technical method. Resumption of mucous transport was observed on the third, and transport over the anastomosis from the sixth to tenth, postoperative days. The mucociliary clearance had completely recovered on the twenty-first day in the majority of dogs. Histological examination of the anastomoses nine months postoperatively showed a flat substitute epithelium without cilia-bearing cells in all dogs. This contrasts with the quick restitution of the transport function. In case of undamaged respiratory mucosa, a good adaptation of the resection margins suffices for the mucous film to slide over the anastomosis. Author.