

## Abstract Selection

### **Histomorphology of neochondrogenesis after antihelical fold creation: a comparison of three otoplasty techniques in the rabbit.**

Weinzweig, N., Chen, L., Sullivan, W. G. Division of Plastic Surgery, University of Illinois at Chicago 60612–7316. *Annals of Plastic Surgery* (1994) October, Vol. 33 (4), pp: 371–6.

The purpose of this article is twofold: (1) to investigate the histomorphology of cartilaginous proliferation using three different otoplasty techniques and (2) to determine whether recurrence is related either to the method of otoplasty or the duration of suture fixation. Eighteen six-week-old New Zealand white rabbits were divided into three equal groups. In each animal, a skin pocket was developed on the posterior surface of both ears; the perichondrium of the right ear was left undisturbed. Otoplasties were performed by inserting permanent mattress sutures with (Converse-Wood-Smith) or without (Mustarde) cartilaginous incisions or by scoring of the anterior cartilaginous surface of the antihelix (Stenstrom). In each group, sutures were cut at one, two, four and six weeks and the animals killed one week later. Histomorphometric analysis was performed. Perichondrial stripping stimulated cartilaginous proliferation in all groups. The antihelical fold maintained its shape best in group 3, in which the anterior perichondrium was rasped; a fibrocartilaginous cap formed over the rasped convex surface of the antihelical fold, reinforcing and stabilizing the newly created fold. Groups 1 and 2, in contrast, demonstrated significantly less anterior cartilaginous proliferation than did group 3, and cap formation was not observed. No significant differences were apparent between groups 1 and 2 in either the quantity or quality of cartilaginous proliferation in any of the time periods. Cutting the sutures at one week resulted in loss of shape or 'flattening' of the fold in all groups; however, increased cartilaginous proliferation between two and six weeks stabilized the fold, minimizing deformability. Author.

**Auditory perceptual and visual-spatial characteristics of gaze-evoked tinnitus.** Cacace, A. T., Lovely, T. J., Winter, D. F., Parnes, S. M., McFarland, D. J. Division of Otolaryngology, Albany Medical College, NY 12208. *Audiology* (1994) September-October, Vol. 33 (5), pp: 291–303.

Auditory perceptual and visual-spatial characteristics of subjective tinnitus evoked by eye gaze were studied in two adult human subjects. This uncommon form of tinnitus occurred approximately four to six weeks following neurosurgery for gross total excision of space-occupying lesions of the cerebellopontine angle and hearing was lost in the operated ear. In both cases, the gaze-evoked tinnitus was characterized as being tonal in nature, with pitch and loudness percepts remaining constant as long as the same horizontal or vertical eye directions were maintained. Tinnitus was absent when the eyes were in a neutral head-referenced position with subjects looking straight ahead. The results and implications of ophthalmological, standard and modified visual-field assessment, pure-tone audiometric assessment, spontaneous otoacoustic emission testing and detailed psychophysical assessment of pitch and loudness are discussed. Author.

**Cognitive-behavioural management of motion sickness.** Dobie, T. G., May, J. G. Motion Sciences Department, Naval Biodynamics Laboratory, New Orleans, LA 70189-0407. *Aviation, Space and Environmental Medicine* (1994) October, Vol. 65 (10 Pt 2), pp: C1–2.

This monograph is intended to provide health professionals with information on a cognitive-behavioural technique which was developed to teach individuals who are prone to motion sickness to better cope with motion environments. It includes an overview of motion sickness, describing the signs and symptoms, etiology

and incidence of this malady. Prevention and treatment are then reviewed, including both pharmacological and non-pharmacological therapies. The historical background on the cognitive-behavioural technique is then discussed. This is followed by a review of supporting experimental work, and an account of how such counselling should be carried out. Finally, a number of current military desensitization programs are compared and contrasted with cognitive-behavioural therapy. Author.

**Prevalence and predictors of continued tobacco use after treatment of patients with head and neck cancer.** Ostroff, J. S., Jacobsen, P. B., Moadel, A. B., Spiro, R. H., Shah, J. P., Strong, E. W., Kraus, D. H., Schantz, S. P. Memorial Sloan-Kettering Cancer Centre, New York, New York 10021. *Cancer* (1995) January 15, Vol. 75 (2), pp: 569–76.

**BACKGROUND.** Patients with head and neck cancer who continue to smoke after diagnosis and treatment are more likely than patients who quit to experience tumour recurrence and second primary malignancies. Therefore, information about patients' smoking status and the factors associated with continued tobacco use are important considerations in the comprehensive care patients with head and neck cancer. **METHODS.** Study participants were 144 patients with newly diagnosed squamous cell carcinomas of the upper aerodigestive tract who underwent surgical treatment, with or without postoperative radiotherapy or chemotherapy, 3–15 months before assessment of their post-operative tobacco use. **RESULTS.** Among the 74 patients who had smoked in the year before diagnosis, 35 per cent reported continued tobacco use after surgery. Compared with patients who abstained from smoking, patients who continued to use tobacco were less likely to have received post-operative radiotherapy, to have had less extensive disease, to have had oral cavity disease, and to have had higher levels of education. Hierarchical regression analysis indicated that most of the explained variance in smoking status could be accounted for on the first step of analysis by disease site. Interest in smoking cessation was high, and most patients made multiple attempts to quit. **CONCLUSIONS.** Although the diagnosis of a tobacco-related malignancy clearly represents a strong catalyst for smoking cessation, a sizeable subgroup of patients continue to smoke. Patients with less severe disease who undergo less extensive treatment are particularly at risk for continued tobacco use. These data highlight the importance of developing smoking cessation interventions designed to meet the demographic, disease, treatment, and tobacco-use characteristics of this patient population. Author.

**Comparison of early communicative behaviour in young children with cochlear implants and with hearing aids.** Tait, M., Lutman, M. E. Nottingham Paediatric Cochlear Implant Programme, General Hospital, United Kingdom. *Ear and Hearing* (1994) October, Vol. 15 (5), pp: 352–61.

Analysis of preverbal behaviours, which are the natural precursors of language development, was performed in three groups of young children with severe/profound hearing impairments, based on video recordings of interactions with a known adult. All groups were matched for age at assessment. One group of nine children had Nucleus multichannel cochlear implants with the MSP sound processor, whereas the other two groups of nine children each used conventional hearing aids. The first hearing aid group had unaided hearing threshold levels averaging 101 dB and were proficient users; the second aided group had hearing threshold levels averaging 114 dB and were poor users. Over the assessment period lasting 12 months, starting at implantation or entry to nursery school according to group, implantees and proficient hearing aid users developed a strongly vocal/auditory style of

communicative behaviour, especially the implantees. This contrasted with a strongly visual/gestural style developed by the poor hearing aid users. It is concluded that implantees develop their early communicative behaviour along lines that are similar to proficient hearing aid users, but more rapidly and more strongly in the vocal/auditory direction. Author.

**Cochlear implants for congenitally deaf adolescents: is open-set speech perception a realistic expectation?** Sarant, J. Z., Cowan, R. S., Blamey, P. J., Galvin, K. L., Clark, G. M. Australian Bionic Ear and Hearing Research Institute, East Melbourne, Victoria. *Ear and Hearing* (1994) October, Vol. 15 (5), pp: 400–3.

The prognosis for benefit from use of cochlear implants in congenitally deaf adolescents, who have a long duration of profound deafness prior to implantation, has typically been low. Speech perception results for two congenitally deaf patients implanted as adolescents at the University of Melbourne/Royal Victorian Eye and Ear Hospital Clinic show that, after 12 months of experience, both patients had significant open-set speech discrimination scores without lipreading. These results suggest that although benefits may in general be low for congenitally deaf adolescents, individuals may attain significant benefits to speech perception after a short period of experience. Prospective patients from this group should therefore be considered on an individual basis with regard to prognosis for benefit from cochlear implantation. Author.

**Fine mapping of a putatively imprinted gene for familial non-chromaffin paragangliomas to chromosome 11q13.1: evidence for genetic heterogeneity.** Mariman, E. C., van Beersum, S. E., Cremers, C. W., Struycken, P. M., Ropers, H. H. Department of Human Genetics, University Hospital Nijmegen, The Netherlands. *Human Genetics* (1995) January, Vol. 95 (1), pp: 56–62.

Autosomal, dominantly inherited, non-chromaffin paragangliomas are tumours of the head and neck region occurring with a frequency of 1:30 000. Genomic imprinting probably influences the expression of the disorder, because tumour development is limited to individuals who have inherited the trait from their father. By linkage analysis and haplotyping of a single large family in which the pattern of inheritance is consistent with genomic imprinting, we have mapped the gene to a 5 cM region of chromosome 11q13.1 between D11S956 and PYGM. A maximum lod score of 7.62 at theta = 0.0 was obtained for D11S480. This interval does not overlap with a recently assigned locus for glomus tumours in other families 11q22.3-q23.3. Furthermore, analysis of a second family showing the imprinting phenomenon resulted in the exclusion of the 4 cM area as the location of the disease gene, whereas an indication for linkage was obtained ( $Z = +2.65$ ) with markers from the distal locus. These observations argue for the presence of two distinct imprinted genes for glomus tumours on 11q. A model for tumour initiation and progression is presented based on all available information. Author.

**First report of involvement of *Nodulisporium* species in human disease.** Cox, G. M., Schell, W. A., Scher, R. L., Perfect, J. R. Department of Medicine, Duke Medical Centre, Durham, North Carolina 27710. *Journal of Clinical Microbiology* (1994) September, Vol. 32 (9), pp: 2301–4.

Allergic fungal sinusitis is a common disease that results from a hypersensitivity reaction mounted by the host against fungi living in the paranasal sinuses. We have recently treated a patient with allergic fungal sinusitis due to a *Nodulisporium* species. This is the first description of a *Nodulisporium* species involved in human disease. The genus *Nodulisporium* contains both dematiaceous and nondematiaceous members. These fungi occur worldwide in nature, often as accompanying conidial anamorphs of certain wood decay ascomycetes. Clinical mycology laboratories may encounter this new agent of phaeohyphomycosis. Author.

**Hemihypoglossal-facial nerve anastomosis in treating unilateral facial palsy after acoustic neurinoma resection.** Arai, H., Sato, K., Yanai, A. Department of Neurosurgery, Juntendo University, Tokyo, Japan. *Journal of Neurosurgery* (1995) January, Vol. 82 (1), pp: 51–4.

Eight patients underwent hemihypoglossal-facial nerve anastomosis (anastomosis of a split hypoglossal nerve to the facial nerve) for treatment of unilateral facial palsy. All patients previously had undergone resection of a large acoustic neurinoma and the facial

nerve had been resected at that time. The interval between tumour resection and hemihypoglossal-facial nerve anastomosis ranged from one to six months, with an average of 2.1 months. Post-operative recovery of facial movement was good in all cases during an average follow-up period of 4.2 years. In all eight patients, the degree of hypoglossal nerve atrophy on the operated side was graded mild or moderate, but not severe. It was concluded that hemihypoglossal-facial nerve anastomosis results in good facial reanimation as long as the procedure is performed early after the onset of facial palsy and that this procedure may reduce the degree of hemiglossal atrophy in comparison with classic hypoglossal-facial nerve anastomosis. Author.

**Trends in antimicrobial drug prescribing among office-based physicians in the United States.** McCaig, L. F., Hughes, J. M. Ambulatory Care Statistics Branch, Centres for Disease Control and Prevention, Hyattsville, MD. *JAMA* January 18, Vol. 273 (3), pp: 214–9. Comment in: *JAMA* (1995) January 18; 273 (3):241–2.

**OBJECTIVE.** To assess changes in oral antimicrobial drug prescribing by office-based physicians from 1980 through 1992, with emphasis on the treatment of otitis media and sinusitis and on the possible impact of demographic variables on such use. **DESIGN.** The National Ambulatory Medical Care Survey is a sample survey of office-based physicians in the United States conducted by the National Centre for Health Statistics, Centres for Disease Control and Prevention. **SETTING.** Physicians' offices. **PATIENTS OR OTHER PARTICIPANTS.** Physicians sampled for the 1980, 1985, 1989 and 1992 National Ambulatory Medical Care Surveys, which included groups of 2959, 5032, 2540 and 3000 physicians, respectively. Sample physicians responding in 1980, 1985, 1989 and 1992 reported data for 46 081, 71 594, 38 384 and 34 606 sample office visits, respectively, including information on antimicrobial drug prescribing. **MAIN OUTCOME MEASURE.** Trends in the antimicrobial drug prescription rates. **RESULTS.** From 1980 through 1992, increasing prescribing measured by the annual drug prescription rate per 1000 population, was found for the more expensive, broad-spectrum antimicrobial drugs, such as the cephalosporins; decreasing rates were observed for less expensive antimicrobial drugs with a narrower spectrum, such as the penicillins. No trend was found for trimethoprim-sulfamethoxazole, the erythromycins, or the tetracyclines. During the decade, an increasing trend in the visit rate to office-based physicians for otitis media was observed, while the visit rate for sinusitis among adults was found to be higher in 1992 than in each of the other study years. **CONCLUSIONS.** The increased use of broader-spectrum and more expensive antimicrobial drugs have implications for all patients because of the impact on health care costs and the potential for the emergence of antimicrobial resistance. The data suggest that the incidence of otitis media and sinusitis is increasing. Author.

**Communication with deaf patients. Knowledge, beliefs, and practices of physicians.** Ebert, D. A., Heckerling, P. S. Department of Medicine, University of Illinois, Chicago 60612. *JAMA* (1995) January 18, Vol. 273 (3), pp: 227–9.

**OBJECTIVE.** To assess physicians' knowledge and beliefs regarding communication with deaf people and compare their knowledge and beliefs with their methods of communicating with deaf patients in their practices. **DESIGN.** Survey. **SETTING.** University medical centre. **SUBJECTS.** Attending physicians in an internal medicine department. **INTERVENTIONS.** Physicians were surveyed regarding prior contacts with deaf patients and with deaf people outside the medical setting, and regarding their knowledge and beliefs concerning methods of communicating with deaf people. Physicians were asked to estimate the fraction of encounters in which they communicated with deaf patients by lipreading, writing, translation by a relative or friend, a sign language interpreter, or other methods. **RESULTS.** Writing was the method used most frequently in communicating with deaf patients. Although 63 per cent of physicians knew that signing should be the initial method of communicating with deaf patients who sign, only 22 per cent used sign language interpreters more frequently than other methods in their practices. Past contact with deaf people ( $P = 0.05$ ), belief that communication by signing was the best means of communication ( $P = 0.04$ ), and knowledge of the inefficiency of lipreading ( $P = 0.04$ ) were predictors of the use of sign language interpreters for deaf patients. Physicians who used sign language interpreters more frequently than other methods

believed that much more time and effort were involved in caring for deaf than for hearing patients compared with those who used interpreters less frequently ( $P = 0.08$ ). **CONCLUSION.** Although most physicians believed that use of sign language interpreters was preferable, only a minority used them in their practices. Greater recognition of the advantages of signing over other methods and greater availability of sign language interpreters should lead to more effective communication between deaf patients and physicians. Author.

**Lack of specific symptomatology in children with acute otitis media.** Niemela, M., Uhari, M., Jounio-Ervasti, K., Luotonen, J., Alho, O. P., Vierimaa, E. Department of Pediatrics, University of Oulu, Finland. *Pediatric Infectious Disease Journal* (1994) September, Vol. 13 (9), pp: 765–8.

Although the symptoms of the acutely ill child are important both in the diagnosis and follow-up of acute otitis media (AOM), data about them are quite limited. We carried out a prospective survey by collecting information on 354 consecutive children visiting a pediatrician, otolaryngologist or general practitioner because of any kind of acute symptoms to compare symptoms of children with acute otitis media with those of children with other acute infectious diseases. The symptoms and signs observed at home were recorded by the parents before the visit and the findings in the physical examination were recorded later by the physician. AOM was diagnosed in 191 patients (54 per cent). The most important symptoms increasing the likelihood of AOM significantly were ear-related symptoms, such as earache (relative risk (RR) 5.4;  $P < 0.001$ ), rubbing of the ear (RR 5.0;  $P < 0.001$ ) and feeling of blocked ear (RR 4.5;  $P < 0.05$ ). However, only 67.7 per cent of children younger than two years of age with AOM had any ear-related symptoms. The children with tympanostomy tubes had earache (47.8 per cent) and rubbing of the ear (58.8 per cent) of the same magnitude as did children without tubes. Rhinitis increased the likelihood of AOM (RR 2.3;  $P < 0.001$ ) as did excessive crying in children older than two years of age (RR 3.0;  $P < 0.001$ ). Fever, earache or excessive crying was present in 90.1 per cent of patients with AOM but also in 72.4 per cent of patients without AOM. Author.

**Gene mapping of Usher syndrome type IIa: localization of the gene to a 2.1-cM segment on chromosome 1q41.** Kimberling, W. J., Weston, M. D., Moller, C. van Aarem, A., Cremers, C. W., Sumegi, J., Ing, P. S., Connolly, C., Martini, A., Milani, M., *et al.* Center for Hereditary Communication Disorders, Boys Town National Research Hospital, Omaha, NE 68131. *American Journal of Human Genetics* (1995) January, Vol. 56 (1), pp. 216–23.

Usher syndrome type II is associated with hearing loss and retinitis pigmentosa but not with any vestibular problems. It is known to be genetically heterogeneous, and one locus (termed USH2A) has been linked to chromosome 1q41. In an effort to refine the localization of USH2A, the genetic map of the region between and adjacent to the marker loci previously recognized as flanking USH2A (D1S70 and PPOL) is updated. Analysis of marker data on 68 Usher II families places the USH2A gene into a 2.1-cM region between the markers D1S237 and D1S229. The gene for transforming growth factor beta 2 (TGFB2) and the gene for the homeodomain box (HLX1) are both eliminated as candidates for USH2A, by virtue of their localization outside these flanking markers. The earlier findings of genetic heterogeneity was confirmed in six new families, and the proportion of unlinked Usher II families is estimated at 12.5 per cent. The placement of the USH2A gene into this region will aid in the physical mapping and isolation of the gene itself. Author.

**Bilateral vocal cord paralysis following blunt trauma to the neck.** Levine, R. J., Sanders, A. B., LaMear, W. R. Section of Emergency Medicine, Tucson. *Annals of Emergency Medicine* (1995) February, Vol. 25 (2), pp. 253–5.

Blunt trauma to the anterior neck has been known to cause upper-airway obstruction requiring emergency tracheostomy. We report the case of a 26-year-old man who sustained blunt trauma to the anterior neck in whom upper-airway obstruction developed. Although computed tomography of the neck revealed a thyroid cartilage fracture and a retropharyngeal hematoma, fiberoptic examination of the larynx identified vocal cord paralysis as the primary cause of his upper-airway obstruction. Emergency

tracheostomy was performed, and the patient recovered uneventfully. A Medline search of the literature for the past 3 years failed to identify any individual case reports of bilateral vocal cord paralysis secondary to blunt anterior neck trauma. Author.

**The preparation of an autologous saliva for use with patients undergoing therapeutic radiation for head and neck cancer.** Sreebny, L. M., Zhu, W. X., Schwartz, S. S., Meek, A. G. Health Sciences Center, State University of New York at Stony Brook 11794–8702. *Journal of Oral and Maxillofacial Surgery* (1995) February, Vol. 53 (2), pp. 131–9.

**PURPOSE:** At the present time there is no general agreement about how to prevent the symptoms and clinical signs that accompany therapeutic irradiation for head and neck cancer. Because saliva is the principal protector of the oral tissues, it is logical to assume that many of these changes are due to the radiation-induced damage to the salivary glands. We have observed that the flow and composition of saliva is normal in most patients before their irradiation. Theoretically, it should, therefore, be possible to collect their saliva before they commence their course of radiation, store it in a 'saliva bank', and give it back to them when they undergo radiation. The key to the use of such an autologous saliva is the fabrication of a technique that disinfects or sterilizes the saliva yet preserves its protective properties. The objective of this study was to prepare an autologous saliva that would be used by patients during their irradiation for head and neck cancer. **MATERIALS AND METHODS:** Stimulated saliva was obtained from healthy subjects; none of the subjects consumed any medications. The saliva was treated by a variety of techniques. Included among them were heat, radiation, filtration, centrifugation, and an antibacterial agent. The samples were analysed for total protein, amylase, viscosity, and sterility; individual salivary proteins were assessed by sodium dodecylsulfate-polyacrylamide gel electrophoresis. **RESULTS:** The results showed that beta radiation ( $>2.5$  kGy) and lyophilization + chlorhexidine (0.03 per cent to 0.12 per cent) could be used to prepare a sterile autologous saliva that retained most of its protective properties. Author.

**Molecular assessment of histopathological staging in squamous-cell carcinoma of the head and neck.** Brennan, J. A., Mao, L., Hruban, R. H., Boyle, J. O., Eby, Y. J., Koch, W. M., Goodman, S. N., Sidransky, D. Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21205–2195. *New England Journal of Medicine* (1995) February 16, Vol. 332 (7), pp. 29–35.

**BACKGROUND:** Surgical oncologists rely heavily on their histopathological assessment of surgical margins to ensure total excision of the tumor in patients with head and neck cancer. However, current techniques may not detect small numbers of cancer cells at the margins of resection or in cervical lymph nodes. **METHODS:** We used molecular techniques to determine whether clonal populations of infiltrating tumor cells harboring mutations of the p53 gene could be detected in histopathologically negative surgical margins and cervical lymph nodes of patients with squamous-cell carcinoma of the head and neck. **RESULTS:** We identified 25 patients with primary squamous-cell carcinoma of the head and neck containing a p53 mutation who appeared to have had complete tumor resection on the basis of a negative histopathological assessment. In 13 of these 25 patients, molecular analysis was positive for a p53 mutation in at least one tumor margin. In 5 of 13 patients with positive margins by this method (38 per cent), the carcinoma has recurred locally, as compared with none of 12 patients with negative margins ( $P = 0.02$  by the log-rank test). Furthermore, molecular analysis identified neoplastic cells in 6 of 28 lymph nodes (21 per cent) that were initially negative by histopathological assessment. **CONCLUSIONS:** Among specimens initially believed to be negative by light microscopy, a substantial percentage of the surgical margins and lymph nodes from patients with squamous-cell carcinoma of the head and neck contained p53 mutations specific for the primary tumor. Patients with these positive margins appear to have a substantially increased risk of local recurrence. Molecular analysis of surgical margins and lymph nodes can augment standard histopathological assessment and may improve the prediction of local tumor recurrence. Author