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Abstract Selection

The modified laryngeal mask airway: four head and neck procedures in two children with mild subglottic stenosis. Rothschild, M. A., Kavee, E. H. Department of Otolaryngology, Mount Sinai Medical Center, New York, NY 10029, USA. *International Journal of Pediatric Otorhinolaryngology* (1997) August 20, Vol. 41 (2), pp. 163–73.
The laryngeal mask airway (LMA) was first described in 1983, and has since been used for administration of general anaesthesia, resuscitation and as an aid to bronchoscopy or intubation. When used for anaesthesia, the LMA has the advantage of lessening potential subglottic injury as compared to an endotracheal tube. Children with mild subglottic stenosis often have minimal symptoms of airway compromise at baseline. However, a minor degree of subglottic irritation may result in dyspnea (as in upper airway infection or following laryngeal intubation). We have begun using the LMA in such patients undergoing a general anaesthetic for head and neck procedures unrelated to the airway. The present report describes two such children who underwent rhinologic and ophthalmologic surgery using the LMA. No perioperative stridor or respiratory distress was noted, and the LMA did not interfere with the procedure. In addition, we describe a modification of the standard LMA to further facilitate surgical access to the head and neck. Author.

Prevalence and etiology of bilateral sensorineural hearing impairment in a Finnish childhood population. Vartiainen, E., Kemppinen, P., Karjalainen, S. Department of Otolaryngology, Kuopio University Hospital, Finland. *International Journal of Pediatric Otorhinolaryngology* (1997) August 20, Vol. 41 (2), pp. 175–85.
A retrospective study was performed on the prevalence and etiology of bilateral sensorineural hearing impairment (>25 dB at 0.5–4 kHz in the better ear) among children born 1974–1987 in a province of eastern Finland. A total of 98 children with hearing impairment were identified, which gave a prevalence of 2.1 per 1000 live births. This prevalence was higher than reported from most of other developed countries but slightly lower than reported from Sweden. A slight decline from the prevalence of 2.3 per 1000 in the 1970s to the prevalence of 1.9 per 1000 in the 1980s was observed. Contrary to several earlier studies, no male predominance was noted, there were even slightly more females than males (52 vs 46). Etiology of the hearing loss was estimated to be genetic in 41 per cent, congenital nongenetic in 13 per cent, delayed-onset nongenetic in 16 per cent and remained unknown in 30 per cent. On average, children with a congenital disorder had more severe hearing impairment than those with delayed-onset hearing loss, e.g. 31 per cent of the former patients had profound (>95 dB) hearing loss compared to six per cent of the latter. A very gratifying finding was that no case of congenital hearing impairment caused by maternal rubella was identified after 1982, obviously due to general vaccinations. Also, a decline in cases of hearing loss attributed to perinatal and neonatal complications was observed. Author.

Noise level analysis of commercially available toys. Yaremchuk, K., Dickson, L., Burk, K., Shivapuja, B. G. Department of Otolaryngology – Head and Neck Surgery, Henry Ford Hospital, Detroit, MI 48202, USA. *International Journal of Pediatric Otorhinolaryngology* (1997) August 20, Vol. 41 (2), pp. 187–97.
There have been several isolated reports of hearing loss due to noise levels from toys. Guidelines for noise production by toys is regulated by the Voluntary Product Standards PS 72–76: Toy Safety Act of 1969. To determine the current risk of noise induced hearing loss from toys currently on the market, 25 toys were purchased at a national toy store chain and sound levels were measured at distances approximating ear level (2.5 cm) and a child's arm length (25 cm) from the surface of the toy. Testing revealed peak sound levels ranging from 81 to 126 dBA at 2.5 cm and 80 to 115 dBA at 25 cm from the surface of the toy. Author.

Congenital airway abnormalities requiring tracheotomy: a profile of 56 patients and their diagnoses over a nine year period. Altman, K. W., Wetmore, R. F., Marsh, R. R. Department of Otolaryngology, Children's Hospital of Philadelphia, PA 19104, USA. *International Journal of Pediatric Otorhinolaryngology* (1997) August 20, Vol. 41 (2), pp. 199-206.
We reviewed the nine year experience at the Children's Hospital of Philadelphia with patients requiring tracheotomy for a diagnosis of congenital airway abnormalities. Of the 56 patients, 28 (50 per cent) had cardiovascular, or chromosomal abnormalities, neurologic conditions, or congenital syndromes, 24 (43 per cent) were born prematurely, and 13 (23 per cent) were found to have gastroesophageal reflux. Only 18 (32 per cent) went on to eventual decannulation of their tracheotomy with a mean tracheotomy duration of 1.75 years. The majority of patients (75 per cent) had multiple presenting signs. Stridor was the most common (54 per cent), followed by accessory respiratory effort (39 per cent), cyanosis (30 per cent), apnea (29 per cent), and failure to thrive (23 per cent). Twenty-eight patients (50 per cent) had multiple airway abnormalities contributing to their need of a tracheotomy for airway protection or ventilator dependence. Laryngeal abnormalities were found in 71 per cent of patients, tracheal abnormalities in 48 per cent of patients, bronchial abnormalities in 11 per cent, and upper airway obstruction in 14 per cent. Of the laryngeal abnormalities, laryngomalacia was the most common, followed by subglottic stenosis, glottic web, and vocal cord paralysis. Tracheomalacia was the most common tracheal abnormality. The relatively large percentage of patients with cardiovascular or other major malformations, and prematurity, accounts for comorbid factors in the need for prolonged tracheotomy (and low early decannulation rate). Although gastroesophageal reflux was found in a recognizable portion of the patients, it is unclear whether this represents a comorbid condition. Author.

Aberrant cervical thymus: a case report and review of literature. Baek, C. H., Ryu, J. S., Yun, J. B., Chu, K. C. Department of Otorhinolaryngology – Head and Neck Surgery, College of Medicine, Sung Kyun Kwan University, Samsung Medical Center, Seoul, South Korea. *International Journal of Pediatric Otorhinolaryngology* (1997), August 20, Vol. 41 (2), pp. 215–22.
This article illustrates a case of an aberrant cervical thymus presented as a neck mass. This is a case of a four-month-old boy presenting with a right submandibular mass whose preoperative diagnosis was lymphangioma or neoplastic lesion. The mass was successfully removed and the histopathological examination showed normal thymic tissue with no diagnostic abnormality. This paper reviews the embryological background of aberrant cervical thymus, the varying clinical presentations with an emphasis on differential diagnosis, clinical work-up, and surgical treatment. Author.

Isolated congenital internal auditory canal atresia with normal facial nerve function. Yates, J. A., Patel, P. C., Milllman, B., Gibson, W. S. Department of Otolaryngology/Head and Neck Surgery, Geisinger Medical Center, Danville, PA 17822, USA. *International Journal of Pediatric Otorhinolaryngology* (1997) July 18, Vol. 41 (1), pp. 1–8.
The internal auditory canal forms as a result of mesoderm enveloping the eighth cranial nerve in the developing embryo. The mesoderm eventually transforms into cartilage and ultimately ossifies around the nerve, forming the internal auditory canal. It is

theorized that atresia or stenosis of the internal auditory canal results from altered cochleovestibular nerve development secondary to faulty chemotactic mechanisms or a lack of end organ targets. Unilateral internal auditory canal anomalies are frequently seen in conjunction with other inner ear anomalies and occasionally with middle or external ear anomalies. Infrequently, it will occur as either an isolated or bilateral finding, but rarely simultaneously. The few citations of isolated, unilateral or bilateral internal auditory canal anomalies that are reported in the literature are usually associated with other systemic developmental anomalies, such as, cardiac septal defects, polycystic kidney disease, skeletal deformities and duodenal atresia. We present a case report of a patient with bilateral, congenital, internal auditory canal atresia and cochleovestibular deficits but, normal facial nerve function. A review of the literature is discussed as well as diagnostic considerations and treatment options including audiologic and communication rehabilitation. Author.

Prevalence of otitis media with effusion amongst pre-school children in Malaysia. Saim, A., Saim, L., Saim, S., Ruszymah, B. H., Sani, A. Department of Otorhinolaryngology, Medical Faculty UKM, Kuala Lumpur, Malaysia. aminsaim@pksun5.medic.ukm.my. *International Journal of Pediatric Otorhinolaryngology* (1997) July 18, Vol: 41 (1), pp. 21–8.
A cross-sectional screening test was done to determine the prevalence of otitis media with effusion amongst, preschool children in two districts in Malaysia, namely Kuala Lumpur an urban district and Kuala Selangor a rural district. It involved 1097 preschool children aged between five and six years old. Presence of otitis media effusion (OME) is based on abnormal otoscopic finding, Type B tympanogram and absence of ipsilateral acoustical reflex. The overall prevalence rate of OME was 13.8 per cent. The prevalence in Kuala Lumpur was 17.9 per cent, while in Kuala Selangor it was 9.48 per cent. Bottle feeding during infancy and high socioeconomic status of the parents was statistically associated with higher incidence of OME. Other factors such as race, premature delivery, passive smoking, allergy, asthma and family size, had no influence on the prevalence of otitis media with effusion. Author.

Results of a European randomized trial of Etanidazole combined with radiotherapy in head and neck carcinomas (see comments). Eschwege, F., Sancho-Garnier, H., Chassagne, D., Brisgand, D., Guerra, M., Malaise, E. P., Bey, P., Busutti, L., Cionini, L., N-Guyen, T., Romanini, A., Chavaudra, J., Hill, C. Department of Radiotherapy, Institut Gustave Roussy, France. *International Journal of Radiation, Oncology, Biology and Physiology* (1997) September 1, Vol. 39 (2), pp. 275–81. Comment in: *International Journal of Radiation, Oncology, Biology and Physics* (1997) September 1, 39 (2): 273–4.
PURPOSE: The aim of the study was to evaluate the efficacy and toxicity of Etanidazole, a hypoxic cell sensitizer, combined with radiotherapy in the treatment of head and neck squamous cell carcinoma. METHODS AND MATERIALS: A total of 374 patients from 27 European centres were included in this trial between 1987 and 1990. Treatment was either conventional radiotherapy alone (between 66 Gy in 33 fractions and 74 Gy in 37 fractions, five fractions per week), or the same radiotherapy dose plus Etanidazole 2 g/m^2, three times weekly for 17 doses. A minimization procedure, balancing for centre, site and T stage (T1–T3 vs. T4) was used for randomization. RESULTS: Among the 187 patients in the Etanidazole group, 82 per cent received at least 14 doses of the drug. Compliance to the radiotherapy protocol was 92 per cent in the Etanidazole group and 88 per cent in the control group; the main cause of deviation was acute toxicity, which was observed at an equal rate in the two treatment groups. Fifty-two cases of Grade 1 to 3 peripheral neuropathy were observed in the Etanidazole group vs five cases, all of Grade 1, in the control group ($p<0.001$). The two-year actuarial loco-regional control rates were 53 per cent in the Etanidazole group and 53 per cent in the control group ($p = 0.93$), and the overall two-year survival rates were 54 per cent in each group ($p = 0.99$). CONCLUSION: Adding Etanidazole to conventional radiotherapy did not afford any benefit for patients with head and neck carcinoma. This study failed to confirm the hypothesis of a benefit for patients with N0–N1 disease, which had been suggested by the results of a previous study (10). Author.

Is prophylactic neck irradiation indicated in patients with squamous cell carcinoma of the maxillary sinus? Paulino, A. C., Fisher, S. G., Marks, J. E. Department of Radiotherapy and the Cardinal Bernardin Cancer Center, Loyola University of Chicago, Maywood, IL 60153, USA. *International Journal of Radiation Oncology Biology and Physics* (1997) September 1, Vol. 39 (2), pp. 283–9.
PURPOSE: To determine the proportion of patients with squamous cell carcinoma of the maxillary sinus who will fail in regional nodes without elective neck treatment and to identify any prognostic factors that may influence neck control. METHODS AND MATERIALS: From 1971–1995, 42 consecutive patients with squamous cell carcinoma of the maxillary sinus were seen at our department for curative treatment. There were 35 males and seven females, with a median age at diagnosis of 63.5 years (range, 42–77 years). One tumour was classified as T1, five had T2, 15 had T3, and 21 had T4 disease. Four of 42 patients (9.5 per cent) had cervical lymphadenopathy at initial presentation. Thirty-three patients had surgical resection and radiotherapy and nine had radiotherapy alone. None of the 38 patients with clinical N0 necks received elective treatment to the cervical nodes. RESULTS: Median overall survival was 30 months for all patients. Of the 38 patients with N0 disease, 11 (28.9 per cent) had neck recurrence. Of the 11 neck failures, nine were ipsilateral only, one was contralateral, and one had bilateral neck recurrence. The most common site of neck failure was in the upper neck (submandibular and jugulodigastric lymph nodes). Four of the 38 patients (10.5 per cent) had isolated neck failure. Only tumour stage was found to be significant for neck relapse, with T1 and T2 doing worse compared to T3 and T4 tumours. Location of tumour (infrastructure vs. suprastructure), involvement of the oral cavity/oropharynx, nasal cavity, nasopharynx or orbit did not predict for cervical node relapse. Local control at the primary site was likewise not prognostic. The median overall survival for patients who remained N0 was 80 months and for those with initial cervical involvement or recurred in the neck without elective neck irradiation was 25 months ($p = 0.05$). CONCLUSION: Based on the 28.9 per cent rate of neck recurrence and the poor median survival of patients who recur in the neck, we recommend prophylactic ipsilateral neck irradiation in patients with T1–T4 squamous cell carcinoma of the maxillary sinus. Author.

Cervical lymph node metastasis from an unknown primary: is a tonsillectomy necessary? Lapeyre, M., Malissard, L., Peiffert, D., Hoffstetter, S., Toussaint, B., Renier, S., Dolivet, G., Geoffrois, L., Fichet, V., Simon, C., Bey, P. Radiotherapy Department, Centre Alexis Vautrin, Nancy, France. *International Journal Radiation, Oncology Biology and Physics* (1997) September 1, Vol. 39 (2), pp. 291–6.
PURPOSE: The detection of an infraclinical primary by tonsillectomy in case of cervical lymph node of an epidermoid carcinoma with unknown primary after a radical neck dissection, allows avoiding irradiation of the normal larynx. The aim of this study is to quantify the rate of tonsil primary to justify this procedure. METHODS AND MATERIALS: From 1969 to 1992, 87 patients had a tonsillectomy as part of the workup for cervical nodal metastasis of an epidermoid carcinoma with unknown primary. The mean age was 57 years (range: 39–75 years) and the sex ratio was 8.6. Sixty-seven patients had a single cervical adenopathy (17 N1, 30 N2a, five N3, 15 Nx), and 20 patients multiple cervical adenopathies (17 N2a, three N2c). The treatments included always an irradiation to the node areas (50 Gy), and to the pharyngolarynx in case of normal tonsil (50 Gy), or to the tonsil if it was the primary (50 Gy with a brachytherapy boost of 20–25 Gy). In this last case, the larynx could be protected. RESULTS: Tonsillectomy never induced specific complication. Out of 87 patients, 26 per cent had a tonsil primary. There was no specific histological differentiation in this group. In the 67 patients with a single cervical adenopathy, 31 per cent had a tonsil primary (six N1, seven N2, one N3, seven Nx). It was a subdigastric adenopathy in 38 per cent, a submandibular in 28 per cent and a midjugulocarotidian in 23 per cent. Among the 17 patients N2b, none had a tonsil primary. In the three patients N2c, two presented a tonsil carcinoma (two subdiagastric nodes). CONCLUSION: Tonsillectomy allows avoiding irradiation of normal larynx in 26 per cent of patients who have a cervical lymph node with unknown primary. It should be performed in case of a single node of the

subdigastric, midjugulocarotidian or submandibular area or bilateral subdiagastric adenopathies. Author.

Hypothyroidism after external radiotherapy for head and neck cancer. Tell, R., Sjodin, H., Lundell, G., Lewin, F., Lewensohn, R. Department of Oncology, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden. *International Journal of Radiation, Oncology, Biology and Physics* (1997) September 1, Vol. 39 (2), pp. 303–8.
PURPOSE: To study the development of thyroid hypofunction in patients with head and neck cancers admitted for external radiotherapy. METHODS AND MATERIALS: Between November 1990 and July 1996, thyroid function was measured in 264 consecutive patients, where the entire thyroid gland or part of it was included in the target volume. The time to development of hypothyroidism (HT) was calculated from the start of the radiotherapy. RESULTS: The median follow-up period was 19 months. Seventeen patients (six per cent) developed elevated serum thyroid-stimulating hormone levels with depressed (free) thyroxine levels (i.e. clinical HT). Elevated serum thyroid-stimulating hormone level with normal (free) thyroxine levels (i.e. chemical HT) developed in 57 (22 per cent). The median time to clinical HT was 15 months (range: seven to 32). The median time to chemical HT was also 15 months (range: two to 28). The actuarial risk of developing clinical or chemical HT three years after treatment was 15 and 40 per cent, respectively. The incidence of chemical HT was significantly higher (p = 0.041) when the whole thyroid was included in the target volume compared to patients where only part of the thyroid was irradiated. The same trend was seen as regards clinical HT (p = 0.063). For those 20 patients who underwent laryngectomy, there was an increased risk of both chemical and clinical HT (p = 0.011 and 0.019, respectively). Increasing age was associated with an increased risk of chemical HT (p = 0.001), but not of clinical HT (p = 0.553). Sex, tumour site, radiation dose, and combination of radiotherapy and chemotherapy were not significant factors for thyroid hypofunction. CONCLUSION: Depressed thyroid function is common after external radiotherapy for cancers of the head and neck. Routine testing for possible thyroid hypofunction should be included in the follow-up procedures, even many years after end of radiotherapy. Author.

Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques. Fitch, W. T. Program in Speech and Hearing Sciences, Harvard University, Cambridge, Massachusetts 02138, USA. *Journal of the Acoustical Society of America* (1997) August, Vol. 102 (2 Pt 1), pp. 1213–22.
Body weight, length, and vocal tract length were measured for 23 rhesus macaques (Macaca mulatta) of various sizes using radiographs and computer graphic techniques, linear predictive coding analysis of tape-recorded threat vocalizations were used to determine vocal tract resonance frequencies ('formants') for the same animals. A new acoustic variable is proposed, 'formant dispersion', which should theoretically depend upon vocal tract length. Formant dispersion is the averaged difference between successive formant frequencies, and was found to be closely tied to both vocal tract length and body size. Despite the common claim that voice fundamental frequency (F0) provides an acoustic indication of body size, repeated investigations have failed to support such a relationship in many vertebrae species including humans. Formant dispersion, unlike voice pitch, is proposed to be a reliable predictor of body size in macaques, and probably many other species. Author.

Manifestations and treatment of xerostomia and associated oral effects secondary to head and neck radiation therapy. Garg, A. K., Malo, M. University of Miami School of Medicine, Fla. 33015, USA. *Journal of the American Dental Association* (1997) August, Vol. 128 (8), pp. 1128–33.
Xerostomia is one of the most common side effects of head and neck radiation therapy. Other oral effects are mucositis and radiation caries. Because xerostomia resulting from radiation therapy may be of a more permanent nature than xerostomia resulting from other causes, treatment is typically more extensive. Numerous regimens treat symptoms of xerostomia and associated caries and mucositis. Among them is the daily application of a fluoride gel, recommended to prevent or minimize dental caries. For patients with severe, chronic xerostomia who have some residual salivary tissue, the use of a sialagogue can promote an increased flow of saliva and treat the symptoms. Author.

Proliferation potential and histological features in neurofibromatosis two-associated and sporadic meningiomas. Antinheimo, J., Haapasalo, H., Haltia, M., Tatagiba, M., Thomas, S., Brandis, A., Sainio, M., Carpen, O., Samii, M., Jaaskelainen, J. Department of Pathology, University of Helsinki, Finland. jussi.antinheimo@helsinki.fi. *Journal of Neurosurgery* (1997) October, Vol. 87 (4), pp. 610–4.
The authors compared the histological appearance and proliferation potential of 35 meningiomas in patients with neurofibromatosis two (NF2) and 30 sporadic meningiomas in age- and gender-matched patients without NF2. The NF2 meningiomas showed more mitotic figures (p<0.001) and nuclear pleomorphism (p = 0.003) than the sporadic meningiomas; however, the incidence of meningothelial, fibroblastic, and transitional subtypes occurred equally in both groups. The proliferation potential was significantly higher in the 35 meningiomas removed from 23 patients with NF2 rather than in the 30 sporadic meningiomas removed in the 30 pateints without NF2 (mean MIB-1 labelling indices: 2.5 vs. 1.75, p = 0.0147). The higher proliferation potential of the NF2 meningiomas may reflect differences in molecular biology between sporadic and NF2 meningiomas and may be related to an earlier onset, multiplicity, and more aggressive behaviour of NF2 tumours. Author.

Effectiveness of clinical guidelines for the presumptive treatment of streptococcal pharyngitis in Egyptian children (see comments). Steinhoff, M. C., Abd-el-Khalek, M. K., Khallaf, N., Hamza, H. S., el-Ayadi, A., Orabi, A., Fouad, H., Kamel, M. Department of International Health, School of Hygiene and Public Health, Baltimore MD, USA. MSTEINHO@JHSPH.EDU. *Lancet* (1997) September 27, Vol. 359 (9082), pp. 918–21. Comment in: *Lancet* (1997) September 27, 350 (9082): 899–900.
BACKGROUND: Primary prevention of acute rheumatic fever requires antibiotic treatment of acute streptococcal pharyngitis. In developing countries, clinicians must rely on clinical guidelines for presumptive treatment of streptococcal pharyngitis since bacterial culture and rapid diagnostic tests are not feasible. We evaluated the WHO Acute Respiratory Infection guideline in a large urban paediatric clinic in Egypt. METHODS: Children between two and 13 years of age who had a sore throat and pharyngeal erythema were enrolled in the study. Clinical, historical, and demographic information was recorded and a throat culture for Group A beta-haemolytic streptococci was done. Sensitivity (percentage of true-positive throat cultures) and specificity (percentage of true-negative throat cultures) were calculated for each clinical feature. The effect of various guidelines on correct presumptive treatment for throat-culture status was calculated. FINDINGS: Of 451 children with pharyngitis, 107 (24 per cent) had group A beta-haemolytic streptococci on throat culture. A purulent exudate was seen in 22 per cent (99/450) of these children and this sign was 31 per cent sensitive and 81 per cent specific for a positive culture. The WHO Acute Respiratory Infections (ARI) guidelines, which suggest treatment for pharyngeal exudate plus enlarged and tender cervical node, were 12 per cent sensitive and 94 per cent specific; 13/107 children with a positive throat culture would correctly receive antibiotics and 323/344 with a negative throat culture would, correctly, not receive antibiotics. Based on our data we propose a modified guideline whereby exudate or large cervical nodes would indicate antibiotic treatment, and this guideline would be 84 per cent sensitive and 40 per cent specific; 90/107 children with a positive throat culture would correctly receive antibiotics and 138/344 with a negative throat culture would, correctly, not receive antibiotics. INTERPRETATION: The WHO ARI clinical guideline has a high specificity but low sensitivity that limits the unnecessary use of antibiotics, but does not treat 88 per cent of children with a positive streptococcal throat culture who are at risk of acute rheumatic fever. A modified guideline may be more useful in this population. Prospective studies of treatment guidelines from many regions are needed to assess their use since the frequency of pharyngitis varies. Author.

Otitis media-related antibiotic prescribing patterns, outcomes, and expenditures in a pediatric medicaid population. Berman, S., Byrns, P. J., Bondy, J., Smith, P. J., Lezotte, D. Department of

Pediatrics, University of Colorado Health Sciences Center, Denver, Colorado, USA. *Pediatrics* (1997) October, Vol. 100 (4), pp. 585–92.
BACKGROUND: Treatment of otitis media is the most frequent reason for administering antibiotics to children in the United States. However, only limited data are available on medical effectiveness of antibiotic prescribing patterns for otitis media and their associated expenditures or the factors that influence antibiotic prescribing. METHODS: The study population consisted of 131 169 children during 1991 and 157 065 children during 1992 who were </=13 years of age and enrolled in Colorado's fee-for-service Medicaid program. Among these children, 5127 (1991) and 7254 (1992) were enrolled in the cohort treated for a 'new' episode of acute otitis media. An analysis using this cohort was performed to document the antbiotics used to treat a new episode of acute otitis media, factors influencing antibiotic selection, and the short-term outcomes of therapy. An analysis using the entire Medicaid population was performed to document the annual use of antibiotics for otitis, the associated antibiotic expenditures, and factors influencing antibiotic selection. RESULTS: In the cohort analysis, office-based physicians prescribed second- and third-generation cephalosporins more often than did physicians in other settings (17 per cent vs. 9.7 per cent and 11.8 per cent), whereas hospital clinics prescribed trimethoprim plus sulfamethoxazole more frequently than did office-based physicians (19.2 per cent vs. 7.1 per cent and 10.9 per cent). Family physicians prescribed second- and third-generation cephalosporins more often than did pediatricians (16.6 per cent vs. 12.3 per cent) but trimethoprim plus sulfamethoxazole and erythromycin plus sulfisoxazole less often than did pediatricians (10.5 per cent vs. 17 per cent). The average rate of prescribing a second course of antibiotics within 24 days after initial antibiotic treatment of a new acute otitis media episode was 11.6 per cent when less expensive antibiotics (amoxicillin, trimethoprim plus sulfamethoxazole, or erythromycin plus sulfisoxazole) were prescribed, and 13.2 per cent when more expensive antibiotics (cefaclor, amoxicillin plus clavulanate, or cefixime) were prescribed. The average adverse drug reaction rate was 5.9 per cent when less expensive antibiotics were prescribed, compared with 6.1 per cent when more expensive antibiotics were prescribed. In each of the two study years, amoxicillin accounted for almost half of the total antibiotic fills but only nine per cent to 10 per cent of the expenditures. Low-cost antibiotics (amoxicillin, trimethoprim plus sulfamethoxazole, and erythromycin plus sulfisoxazole) were prescribed for 66 per cent to 67 per cent of the total fills and accounted for 21 per cent of the total projected expenditures. More expensive antibiotics (cefaclor, cefixime, amoxicillin plus clavulanate) prescribed for 30 per cent of the fills generated 76 per cent to 77 per cent of expenditures. Cefaclor, prescribed for 17 per cent to 18 per cent of the total fills, generated 43 per cent to 45 per cent of total antibiotic expenses. CONCLUSIONS: The findings of this study document a preference for amoxicillin as the initial antibiotic for a new episode of acute otitis media. Although there was a wide variation in the selection of antibiotics to treat otitis, the more expensive antibiotics were not associated with better outcomes. This wide variation has important financial implications because of differences in antibiotic costs. Changes in prescribing patterns among initially uncomplicated children that reduce the use of high-cost antibiotics could reduce expenditures substantially without compromising short-term outcomes. Author.

Ototoxicity of aminoglycoside drugs in tuberculosis treatment. Voogt, G. R., Schoeman, H. S. Department Otorhinolaryngology, Medical University of Southern Africa. *South African Journal of Communication Disorders* (1996), Vol. 43, pp. 3–6.
The possible ototoxic effect of kanamycin, streptomycin and a standard anti-TB drug combination, used in the treatment of 92 TB patients (seven to 71 years old), was examined by measuring the highest audible electric bone conduction frequency before and after treatment, using an Audimax 500 audiometer. At the so-called 'safe' levels of drug administration it was found that kanamycin was markedly ototoxic, streptomycin very slightly ototoxic and the standard anti-TB drug combination had practically no ototoxic effect. Furthermore, it was found that none of these drugs were gender specific. Lastly, the possible effects of ageing on highest audible bone conduction frequency is discussed. Author.

Effect of voice rehabilitation on oral communication of Parkinson's disease patients. de Angelis, E. C., Mourao, L. F., Ferraz, H. B., Behlau, M. S., Pontes, P. A., Andrade, L. A. Department of Neurology, Universidade Federal de Sao Paulo, Escola Paulista de Medicina, Brazil. *Acta Neurologica Scandinavica* (1997) October, Vol. 96 (4), pp. 199–205.
Voice and speech disorders are common in Parkinson's disease patients and may lead to social isolation. We employed routine clinical voice therapy measures to evaluate the effect of voice rehabilitation. Twenty patients with a stable drug regimen participated in this study. The patients were assessed before and after a program of voice rehabilitation consisting of 13 group therapy sessions during one month, with emphasis on the increase in laryngeal sphincteric activity. Voice rehabilitation produced an increase in maximal phonation times, decrease in the values of s/z ratio and air flow, increase in vocal intensity, decrease in the complaints of weak and strained-strangled voice and monotonous and unintelligible speech and elimination of complaints of swallowing alterations. These data indicate a greater glottic efficiency after voice rehabilitation reflecting a more functional oral communication. Author.

Comparison of dynamic contrast-enhanced gradient-echo and spin-echo sequences in MR of head and neck neoplasms. Escott, E. J., Rao, V. M., Ko, W. D., Guitierrez, J. E. Department of Radiology, University of Colorado Health Sciences Center, Denver 80262, USA. *American Journal of Neuroradiology* (1997) September, Vol. 18 (8), pp. 1411–9.
PURPOSE: To investigate the utility of dynamic contrast-enhanced gradient-echo MR imaging of head and neck lesions and to compare this technique with the commonly used spin-echo contrast-enhanced fat-saturation technique. METHODS: Twenty-two patients with a total of 23 head and neck neoplasms underwent dynamic gradient-echo and spin-echo MR imaging studies. The spin-echo and dynamic gradient-echo images were compared in each case by consensus of three observers for differences in tumour conspicuity and delineation of margins, particularly with regard to invasion of adjacent structures. When possible, pathologic and/or surgical confirmation of tumour extent was obtained. Relative contrast was also calculated to determine objectively the degree of tumour enhancement with respect to background mucosa. RESULTS: The dynamic gradient-echo images showed better or equal delineation of the tumour margins by subjective observation in all but two cases. Temporally different enhancement patterns were noted for lesions, background mucosa, and adjacent reaction and edema. The dynamic gradient-echo technique provided better relative contrast than the spin-echo technique in 17 (77 per cent) of 22 lesions. CONCLUSION: Dynamic gradient-echo MR imaging is superior to conventional contrast-enhanced spin-echo imaging in delineating the margins and extent of tumour. This technique provided observers with added confidence in their interpretations and suffered from fewer technical limitations. Author.

Mutation profile of all 49 exons of the human myosin VIIA gene, and haplotype analysis, in Usher 1B families from diverse origins. Adato, A., Weil, D., Kalinski, H., Pel-Or, Y., Ayadi, H., Petit, C., Korostishevsky, M., Bonne-Tamir, B. Department of Human Genetics, Sackler School of Medicine, Ramat-Aviv, Israel. *American Journal of Human Genetics* (1997) October, Vol. 61 (4), pp. 813–21.
Usher syndrome types I (USH1A-USH1E) are a group of autosomal recessive diseases characterized by profound congenital hearing loss, vestibular areflexia, and progressive visual loss due to retinitis pigmentosa. The human myosin VIIA gene, located on 11q14, has been shown to be responsible for Usher syndrome type 1B (USH1B). Haplotypes were constructed in 28 USH1 families by use of the following polymorphic markers spanning the USH1B locus: D11S787, D11S527, D11S1789, D11S906, D11S4186, and OMP. Affected individuals and members of their families from 12 different ethnic origins were screened for the presence of mutations in all 49 exons of the myosin VIIA gene. In 15 families myosin VIIA mutations were detected, verifying their classification as USH1B. All these mutations are novel, including three missense mutations, one premature stop codon, two splicing mutations, one frameshift, and one deletion of >2 kb comprising exons 47 and 48, a part of exon 49, and the introns between them. Three mutations were shared by more than one family, consistent

with haplotype similarities. Altogether, 16 USH1B haplotypes were observed in the 15 families; most haplotypes were population specific. Several exonic and intronic polymorphisms were also detected. None of the 20 known USH1B mutations reported so far in other world populations were identified in our families. Author.

A novel locus for autosomal dominant nonsyndromic hearing loss, DFNA13, maps to chromosome 6p. Brown, M. R., Tomek, M. S., Van-Laer, L., Smith, S., Kenyon, J. B., Van Camp, G., Smith, R. J. Molecular Otolaryngology Research Laboratories, Department of Otolaryngology – Head and Neck Surgery, Iowa City, IA 52242, USA. *American Journal of Human Genetics* (1997) October, Vol. 61 (4), pp. 924–7.

Nonsyndromic hearing loss (NSHL) is the most common type of hearing impairment in the elderly. Environmental and hereditary factors play an etiologic role, although the relative contribution of each is unknown. To date, 39 NSHL genes have been localized. Twelve produce autosomal dominant hearing loss, most frequently postlingual in onset and progressive in nature. We have ascertained a large, multigenerational family in which a gene for autosomal dominant NSHL is segregating. Affected individuals experience progressive hearing loss beginning in the 2nd–4th decades, eventually making the use of amplification mandatory. A novel locus, DFNA13, was identified on chromosome 6p; the disease gene maps to a 4-cm interval flanked by D6S1663 and D6S1691, with a maximum two-point LOD score of 6.409 at D6S299. Author.

The effect of cricoid pressure and neck support on the view at laryngoscopy. Vanner, R. G., Clarke, P., Moore, W. J., Raftery, S. Department of Anaesthesia, Gloucestershire Royal Hospital, Gloucester, UK. *Anaesthesia* (1997) September, Vol. 52 (9), pp. 896–900.

Fifty female patients were studied to compare the view of the larynx at direct laryngoscopy under general anaesthesia with and without cricoid pressure applied. We also compared the view using the standard technique of cricoid pressure with that using cricoid pressure in an upward and backward direction and further investigated whether these views were improved with a firm foam rubber neck support. The order in which the types of cricoid pressure were applied was randomized and also blinded with a drape over the neck. Cricoid pressure was simulated on weighing scales after each case and a mean force of 3.2 kg was applied. The majority of views at laryngoscopy (95 per cent) were grade 1, with too few grade 2 and 3 views for statistical comparison. Both types of cricoid pressure applied without neck support were more likely to give a better view than no cricoid pressure ($p<0.01$) and cricoid pressure in an upward and backward direction was more likely to give a better view at laryngoscope than the standard technique ($p<0.01$). Neck support during the standard technique of cricoid pressure did not improve the view of the larynx at laryngoscopy. Cricoid pressure is likely to improve the view at laryngoscopy which may be further improved by applying it in an upward and backward direction. Author.