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Abstract Selection

Treatment of hay fever with loratadine—a new non-sedating antihistamine. Irander, K, Odkvist, L. M., Ohlander B. Department of Otolaryngology, Faculty of Health Sciences, Linkoping University, Sweden. *Allergy* 1990 Feb, Vol. 45 (2), pp. 86–91.
The efficacy and safety of loratadine, a new orally active specific HI-receptor blocking antihistamine with poor penetration into the CNS, was evaluated in a double blind comparative study. One hundred and seven hay fever patients, sensitive to birch pollen, were randomized into three parallel groups receiving loratadine 40 mg once daily, clemastine 1 mg twice daily, or placebo during the birch pollen season. Both active treatments showed reduction of symptoms in comparison with placebo, but the results were more pronounced with loratadine treatment, which significantly reduced the overall allergic condition as well as all separate allergic rhinoconjunctivitis symptoms except nasal stuffiness. Compared with placebo the sedation rate was significantly higher with clemastine treatment (P less than 0.05) but not with loratadine. Loratadine was thus concluded to be efficacious in hay fever treatment with a sedation rate not differing from placebo. Author.

External nasal morphology and respiratory function. Spalding, P. M., Vig, P. S. School of Dentistry, University of Michigan, Department of Orthodontics and Pediatric Dentistry, Ann Arbo. *American Journal of Orthodontics Dentofacial Orthopedics* (1990) Mar, Vol. 97 (3), pp. 207–12.
Clinicians have been known to characterize nasal respiratory function on the basis of subjective appraisal of external facial morphology. Certain nasal morphologic features have been assumed to be associated with impaired nasal function. The purpose of this study was to develop measures of anterior external nasal morphology and to determine whether any of these measures correlate with nasal function. Nasal casts were produced from impressions of 60 postpubertal white subjects from which four measures were made to characterize nasal morphology: (1) nasal base shape, (2) minimum nasal orifice width, (3) nasal orifice shape, and (4) nasal orifice area. Nasal function was evaluated by measuring nasal airway resistance by means of posterior rhinomanometry and by measuring the air respired nasally and orally by means of the simultaneous nasal and oral respirometric technique. No significant correlations were found between external nasal morphology and nasorespiratory function. These findings underscore the necessity of avoiding assumptions about breathing function on the basis of clinical appraisal of external nasal form. Author.

The position and the state of the larynx during general anesthesia and muscle paralysis. Sivarajan, M., Fink, B. R. Department of Anesthesiology, Kasturba Medical College, Karnataka, India. *Anesthesiology* (1990) Mar, Vol. 72 (3), pp. 439–42.
Based on a chance observation in two patients in whom the larynges could be visualized during direct laryngoscopy using topical anesthesia but not after general anesthesia and muscle paralysis, the authors postulated that there will be a shift in the position of the larynx with the onset of general anesthesia and muscle paralysis. To verify this the authors measured the position of larynx in lateral radiographs of necks taken in human volunteers when they were awake, and after induction of general anesthesia and muscle paralysis. The authors found that the hyoid bone and epiglottis were shifted anteriorly and the supraglottic region or the vestibule of the larynx was enlarged with the onset of general anesthesia and muscle paralysis. In addition, the larynx was also stretched longitudinally with wide separation of the vestibular and vocal folds. The authors conclude that consciousness is associated with tonic muscular activity that folds the larynx and partially closes it and that onset of general anesthesia and muscle paralysis opens the larynx wider and shifts it anteriorly, which might make visualization of the larynx during direct laryngoscopy difficult in some patients. Author.

Prehospital cricothyrotomy: an investigation of indications, technique, complications, and patient outcome. Spaite, D. W., Joseph, M. Section of Emergency Medicine, University of Arizona College of Medicine, Tucson. *Annals of Emergency Medicine* (1990) Mar, Vol. 19 (3), pp. 279–85.
The records of all patients who presented to a Level 1 trauma center during a two-year period for whom a prehospital cricothyrotomy was attempted or ordered were reviewed. Twenty patients met the study criteria. The average age was 37 years (range, 11 to 65 years). Indications for prehospital cricothyrotomy were massive facial trauma (eight), failed oral intubation (seven), and suspected cervical-spine injury (one). Cricothyrotomy was attempted in 16 patients (80 per cent), with the remaining four having the procedure ordered but not attempted. A successful airway was achieved in 14 patients (88 per cent). Horizontal incisions were used in all cases and were anatomically correct in 15 of 16 attempts (94 per cent). The overall immediate complication rate was 31 per cent. Two patients (12 per cent) sustained major complications (failure to obtain an airway). No hemorrhagic complications occurred, but 16 of the 20 were in cardiac arrest in the field. Long-term complications were not evaluated. All patients sustained major injuries (mean Injury Severity Score, 53.7), except one patient who suffered airway obstruction from food. Three patients (15 per cent) survived; two of the three suffered permanent, severe brain dysfunction. These preliminary findings demonstrate that prehospital cricothyrotomy is being used chiefly in massively injured patients who are already beyond recovery. It is thus difficult to assess whether the procedure is either safe or effective. There is a need for further investigation to determine whether prehospital cricothyrotomy has any beneficial effect on outcome and, if so, in what setting. Author.

Nasolacrimal duct obstruction after endoscopic sinus surgery. Serdahl, C. L., Berris, C. E., Chole, R. A. Department of Ophthalmology, University of California, Davis, Sacramento. *Archives of Ophthalmology* (1990) Mar, Vol. 108 (3), pp. 391–2.
Intranasal endoscopic sinus surgery has several potential ocular complications, including visual loss, diplopia, retrobulbar hemorrhage and epiphora. We treated eight patients with persistent nasolacrimal duct obstruction after endoscopic sinus surgery. All patients required dacryocystorhinostomy to achieve a patent lacrimal system drainage. To our knowledge, this is a previously unreported complication in the ophthalmologic literature. The relevant anatomy of the nasolacrimal duct is discussed in addition to surgical procedures for avoidance and treatment of iatrogenic injury to the system. Endoscopic sinus surgery is a highly successful procedure that is rapidly gaining popularity among otolaryngologists. As the number of patients undergoing this type of surgery increases, an increase in the relative number of ocular complications should be anticipated. Author.

A placebo-controlled comparison of the efficacy and tolerability of picumast dihydrochloride and terfenadine in patients with seasonal allergic rhinitis. Boerner, D., Metz, K., Eberhardt, R., Schurmann, W. Department of Product Development, Boehringer Mannheim GmbHa, Fed. Rep. of Germany. *Arzneimittelforschung* (1989) Oct, Vol. 39 (10A), pp. 1356–9.
Of 99 evaluable patients with seasonal allergic rhinitis, 33, 35, and 31 were treated with picumast dihydrochloride (3,4-dimethyl-7- (4-(4-chlorbenzyl) piperazine-l-yl (propoxycoumar in dihydrochloride) 1 mg, terfenadine 60 mg, and placebo, respectively, twice daily for 3 weeks. After 7 days' treatment physicians' assessments of symptomatic improvement showed that the effects of the two active drugs were similar and significantly superior to those of placebo. Some further improvement occurred over the remainder of the study, with no significant differences in efficacy appearing between picumast dihydrochloride and terfenadine. After 2 and 3 weeks of treatment the efficacies of both picumast dihydrochloride and terfenadine were 'very good/good' in over 90 per cent of patients. The tolerability of all three treatments was classified as 'very good' in 60 per cent to 70 per cent of patients. Physicians were prepared to represcribe the study medication in about 90 per cent of patients given picumast dihydrochloride or terfenadine compared with 52 per cent administered placebo. Similar assessments performed by the patients generally agreed with these results. Withdrawal due to lack of efficacy occurred in 13, 2 and 0 patients treated, respectively, with placebo, terfenadine, or picumast dihydrochloride. Few adverse effects were reported. It is concluded that picumast dihydrochloride offers a comparable alternative to terfenadine in the treatment of seasonal allergic rhinitis. Author.

Double-blind controlled crossover study comparing the protective effect of picumast dihydrochloride versus placebo following nasal allergen challenge. Franke, W., Bachert, C., Messinger, D. Ear, Nose and Throat Clinic, Mannheim Faculty of Medicine, University of Heidelberg, Fed. Rep. of Germany. *Arzneimittelforschung* (1989) Oct, Vol. 39 (10A), pp. 1354–6.

The efficacy of picumast dihydrochloride (3,4-dimethyl-7-(4-(4-chlorobenzyl)piperazine-1-yl)propoxycoumarine++ + dihydrochloride) in a dosage of 2 mg o.d. (loading dise = 2 b.i.d. over the first three days) vs. placebo after nasal challenge was investigated in 20 patients with allergic rhinitis in a double-blind, controlled crossover study. The primary objective was the decrease in determinable nasal flow as a result of obstruction caused by swelling of the mucous membrane of the nose following nasal challenge with grass pollen. In addition, picumast dihydrochloride's effect on subjective symptoms elicited by nasal challenge, such as 'runny nose' and 'irritation', was also assessed. Picumast dihydrochloride's ability to inhibit nasal obstruction after challenge was significantly better than that of placebo in statistical terms. Nasal secretion after challenge with grass pollen was far less pronounced with picumast dihydrochloride than placebo. A positive effect on irritation was not seen after nasal challenge. The results of this study show that picumast dihydrochloride inhibits nasal obstruction and secretion in patients allergic to grass pollens following allergen challenge. It is also expected that picumast dihydrochloride will be able to clearly reduce allergic nasal reactions during times of natural, seasonably-high pollen counts. Author.

Tinnitus with normal hearing sensitivity: extended high-frequency audiometry and auditory-nerve brain-stem-evoked responses. Barnea, G., Attias, J., Gold, S., Shahar, A. Institute for Noise Hazards Research, Chaim Sheba Medical Center, Ramat Gan, Israel. *Audiology* (1990), Vol. 29 (1), pp. 36–45.
Extended high-frequency (HF) audiometry and auditory-nerve brain-stem-evoked responses (ABR) were carried out on two groups of subjects with normal hearing sensitivity. The experimental group comprised 17 subjects with tinnitus, while the control group consisted of age- and sex-matched subjects, not suffering from tinnitus. The aim of the study was to determine whether extended HF audiometry or ABR might reveal significant differences between these two groups of subjects with normal hearing sensitivity. In addition, the characteristics of tinnitus in subjects with normal audiograms were discussed. The results of extended HF audiometry showed no significant differences between the subjects with and without tinnitus. The ABR parameters considered were also within normal limits bilaterally. Based on the methods employed in this study, tinnitus in normal listeners does not appear to reflect appreciable damage in the cochlea or in the brain-stem auditory pathways. The authors present some suggestions for future research. Author.

Frequency selectivity and temporal resolution in patients with various inner ear disorders. Schorn, K., Zwicker, E. Hospital of Otorhinolaryngology, University of Munich, FRG. *Audiology* (1990), Vol. 29 (1), pp. 8–20.
Both frequency selectivity and temporal resolution were examined in patients with various inner ear disorders. These included noise-induced hearing loss (n = 24), Meniere's disease (n = 16), sudden deafness (n = 25), toxic inner ear damage (n = 14), presbyacusis (n = 38) and degenerative progressive inner ear hearing loss (n = 8). To facilitate quantitative comparison, various factors were introduced, namely, frequency resolution factor (FRF), temporal resolution factor (TRF) and a combined resolution factor (FTRF). The FRF of normal-hearing subjects in background noise conditions was found to be approximately 20 per cent less than in comparative test conditions without noise, whereas the TRF of normal-hearing persons tested under background noise conditions showed a remarkable increase (factor 3). The frequency resolution performance and/or the temporal resolution performance were found to be impaired in all patient groups with inner ear hearing loss. This is particularly noticeable for temporal resolution in test conditions involving the addition of background noise. It can be concluded that in such cases, speech discrimination can be seriously jeopardized. Author.

Therapeutic effects of antimotion sickness medications on the secondary symptoms of motion sickness. Wood, C. D., Stewart, J. J., Wood, M. J., Manno, J. E., Manno, B. R., Mims, M. E. Louisiana State University Medical Center, Department of Pharmacology, Shreveport 71130–3932. *Aviation, Space and Environmental Medicine* (1990) Feb, Vol. 61 (2), pp. 157–61.
In addition to nausea and vomiting, motion sickness involves slowing of brain waves, loss of performance, inhibition of gastric motility and the Sopite Syndrome. The therapeutic effects of antimotion sickness drugs on these reactions were evaluated. The subjects were rotated to the M-III end-point of motion sickness. Intramuscular (IM) medications were then administered. Side effects before and after rotation were reported on the Cornell Medical Index. Brain waves were recorded on a Grass Model 6 Electroencephalograph (EEG), and gastric emptying was studied after an oral dose of 1 mCi Technetium 99m DTPA in 10 oz isotonic saline. An increase in dizziness and drowsiness was reported with placebo after rotation. This was not prevented by IM scopolamine 0.1 mg or ephedrine 25 mg. EEG recordings indicated a slowing of alpha waves with some thea and delta waves from the frontal areas after rotation. IM ephedrine and dimenhydrinate counteracted the slowing while 0.3 mg scopolamine had an additive effect. Alterations of performance on the pursuit meter correlated with the brain wave changes. Gastric emptying was restored by IM metoclopramide. Ephedrine IM but not scopolamine is effective for some of the secondary effects of motion sickness after it is established. Author.

Functional endoscopic sinus surgery in aviators with recurrent sinus barotrauma. Bolger, W. E., Parsons, D. S., Matson, R. E. Department of Otolaryngology/Head and Neck Surgery, Wilford Hall USAF Medical Center, Lackland AFB, TX 78236. *Aviation, Space and Environmental Medicine* (1990) Feb, Vol. 61 (2), pp. 148–56.
Recurrent sinus barotrauma in an aviator is difficult to treat successfully. Exacerbations frequently result in marked aviator discomfort, cycles of temporary restriction from aviation duties, or even permanent disqualification from flying duties. Medical management and standard sinus operations are often ineffective, seldom curative, and have a disappointing record in returning the aviator to flying duties. Detailed computerized tomographic scanning of the paranasal sinuses coupled with the functional endoscopic sinus surgery approach directs treatment at the causative pathology. Sinus ventilation is improved while making possible a return to active flight status without recurrence of sinus barotrauma. Initial experience with the functional endoscopic sinus surgery technique in such a patient population is reported. A discussion of recurrent sinus barotrauma, paranasal sinus anatomy, and the theory of endoscopic surgical management for sinus disease is included. Author.

Motion sickness susceptibility and aerobic fitness: a longitudinal study. Cheung, B. S., Money, K. E., Jacobs, I. Defence and Civil Institute of Environmental Medicine, Downsview, Ont., Canada. *Aviation, Space and Environmental Medicine* (1990) Mar, Vol. 61 (3), pp. 201–4.
A longitudinal study evaluated the susceptibility to motion sickness in initially unfit subjects before and after an endurance training program. Motion stimulation was provided by the Precision Angular Mover, in which the subject was tumbled head over heels about an Earth-horizontal axis at 20 cycles per minute in darkness. Maximal aerobic power and the blood lactate response to submaximal exercise were evaluated with cycle ergometry. The training program caused significant improvements in V02max and endurance capacity, and a significant decrease in per cent body fat. There was a significant (p less than 0.0125) increase in motion sickness susceptibility after the physical training, suggesting that increased physical fitness caused increased susceptibility to motion sickness in some individuals. Author.

Prognostic factors of nasopharyngeal carcinoma: a review of 759 patients. Sham, J. S., Choy, D. Department of Radiotherapy and Oncology, Queen Mary Hospital, Pokfulam, Hong Kong. *British Journal of Radiology* (1990) Jan, Vol. 63 (745), pp. 51–8.
The records of 759 Stage I to IV nasopharyngeal carcinoma patients seen between January 1976 and December 1983 were reviewed. There were 72 (9.5 per cent), 162 (21.3 per cent), 317 (41.8 per cent) and 208 (27.4 per cent) patients with Stage I, II, III and IV disease, respectively. Ho's stage classification was found to give a reliable prognosis. The actuarial survival at 5 and 10 years for Stage I, II, III and IV disease was 80.0 per cent, 71.5 per cent, 40.7 per cent, 17.7 per cent and 33.4 per cent, 48.4 per cent, 30.0 per cent, 9.5 per cent, respectively. The significant factors affecting survival were found using Cox multivariate analysis, N and T stages, the size and degree of fixation of neck nodes, sex, age, the presence of cranial nerve palsy and ear symptoms at presentation. Bilateral neck node involvement, histology subtypes of tumour, headache and nasal symptoms at presentation, the difference in radiation dose to the primary tumour and the neck, the initial haemoglobin and white blood count were not significant factors in the present study. The N stage was found to be prognostically significant even among patient groups stratified for the size and degree of fixation of the neck nodes involved. Women had a better survival rate than men, and the survival of patients less than 40 years old was better than those who were older at 5 years, although by 10 years the survival for the two groups was comparable. Author.

Nasopharyngeal carcinoma: the significance of neck node involvement in relation to the pattern of distant failure. Sham, J. S., Choy, D., Choi, P. H. Department of Radiotherapy and Oncology, Queen Mary Hospital, Hong Kong. *British Journal of Radiology* (1990) Feb, Vol. 63 (746), pp. 108–13.
The pattern of distant failure of 759 Stage I-IV cases of nasopharyngeal carcinoma was studied. The most common sites of distant metastasis were, in descending order, bone, lung and liver. The N stage, T stage and the characteristics (size and degree of fixation) of the neck nodes involved were found to be significant prognostic factors determining the development of distant metastasis. The

bilaterality of neck node involvement, sex, age, haemoglobin and white blood count at diagnosis were not significant. The discriminating effect of N stage holds true in patient groups stratified for the node size and degree of fixation. The superiority of the Ho stage classification was confirmed. The high incidence of distant failure in patients with T3, N3, or bulky or fixed neck node involvement warrants further clinical trials to explore the role of adjuvant chemotherapy. Author.

Dosimetric intercomparison in the British Institute of Radiology fractionation study of 3F/week versus 5F/week in radiotherapy of laryngo-pharynx cancer. Barrett, J. H., Davy, T. J., Dixon-Brown, A., Goodman, D., Lawson, R. C., Ormsby, P. L., Saunders, J. E., Williams, P. C., Fowler, J. F., Wiernik, G. British Institute of Radiology, London. *British Journal of Radiology* (1990) Feb, Vol. 63 (746), pp. 125–7. A dose intercomparison was carried out by the National Physical Laboratory between the seven radiotherapy centres which contributed the largest number of patients to the British Institute of Radiology fractionation study of three fractions per week versus five fractions per week in clinical cancer treatment. Six of the centres showed remarkable agreement within the acceptable limits of error of the measurements. In one centre there appeared to be a physical dose discrepancy of 2.8 per cent which was materially less than could be detected clinically. Author.

Primary nasal-paranasal oropharyngeal lymphoma in the pediatric age group. Wollner, N., Mandell, L., Filippa, D., Exelby, P., McGowan, N., Lieberman, P. Department of Pediatricts, Memorial Sloan-Kettering Cancer Center, New York, New York 10021. *Cancer* (1990) Mar 15, Vol. 65 (6), pp. 1438–44.
Nasal-paranasal oropharyngeal (NPOP) non-Hodgkin's lymphoma (NHL) is a disease of the very young (median age, 5 years) and of the aging adult (median age, 50–60 years). Of a total of 208 pediatric patients with NHL studied, 20 (9.6 per cent) had primary NPOP. Sixty per cent of the patients had Stage I and II disease. Primary sites were maxillary sinus in eight patients; tonsils in eight; posterior pharynx in two; mandible in one; and orbit in one patient. Histologically, the disease is different than that of the adults since most patients had B-cell lymphomas of the diffuse undifferentiated type (Rappaport) or small cell non-cleaved types (Lukes-Collins, Kiel, and Working Formulation). None of these patients had gastrointestinal involvement. All patients were treated with the LSA12-L2 regimen and radiation therapy was given to primary unresectable tumors and regional metastases. The lymphoma event-free survival was 75 per cent, with a median observation period of 99+ months. In staging systems that refer mostly to amount of disease outside of the primary (such as ours, Murphy's, and the Ann Arbor staging systems) stage did not correlate well with disease-free survival. In the TNM staging of 1977, a staging system that refers to size of primary tumor as well as regional and systemic disease, stage correlated better with prognosis and survival. In our staging system, eight of 12 patients (66.7 per cent) with Stage I and II disease; four of four with Stage III; two of two with Stage IVA; and zero of two with Stage IVB survived. In the TNM staging system, three of three patients with Stage II and III disease and 12 of 18 patients (67 per cent) with Stage IV disease survived. All recurrences occurred early suggesting that early intensification of chemotherapy may produce better results. Author.

Relationship of cranial ultrasonography, visual and auditory evoked responses with neurodevelopmental outcome. Beverley, D. W., Smith, I. S., Beesley, P., Jones, J., Rhodes, N. Department of Paediatrics, General Infirmary at Leeds. *Developmental Medicine and Child Neurology* (1990) Mar, Vol. 32 (3), pp. 210–22.
Sixty-two preterm infants were followed up with flash visual evoked responses (VERs), brainstem auditory evoked responses (BAERs) and neurodevelopmental assessments for 18 months after term. Cranial ultrasonography showed that 18 infants developed intraventricular haemorrhage (IVH) during the newborn period and four of six infants with grade III or IV haemorrhage had absent VERs at term. The mean latency of the VER in the infants with IVH was significantly shorter than that of infants without IVH. There was no correlation between the degree of ventricular dilatation at term and the latency of the VER. Six months after term the four infants wtih previously absent VERs had normal responses, though there was still a significant difference between the latencies of infants with and without IVH. At 12 and 18 months of age these differences had disappeared. BAERs were not significantly different in the infants with and without IVH, and there was no difference in the VERs or BAERs of infants with neurodevelopmental delay and those developing normally. Neither flash VERs nor BAERs provide a good prognostic indicator of future neurodevelopmental disability or outcome. Author.

Electrically evoked auditory brain stem responses (EABR) and middle latency responses (EMLR) obtained from patients with the nucleus multichannel cochlear implant. Shallop, J. K., Beiter, A. L., Goin, D. W., Mischke, R. E. Denver Ear Institute, Colorado. *Ear and Hearing* (1990) Feb, Vol. 11 (1), pp. 5–15.
Electrical auditory brain stem responses (EABR) and electrical middle latency responses (EMLR) were recorded from patients who had received the Nucleus multichannel cochlear implant system. Twenty-five sequential patients had either intraoperative or outpatient EABR testing. We also recorded EMLRs from several outpatients. EABR results were consistent among all patients tested. Wave V mean latencies were the shortest (3.82 msec) for the most apical electrode (E20) and increased slightly for the medial (E12) and basal (E5) electrodes (3.94 and 4.20 msec, respectively). Absolute latencies for all EABR component waves were observed to be 1 to 1.5 msec shorter than typical acoustic auditory brain stem response (ABR) mean latencies. We have examined the relationships between patients' EABR/EMLR and their behavioural responses to electrical stimulation. Generally, the behavioural threshold and comfort current levels were lower than the predicted values based on EABR/EMLR findings. This observation may be due in part to psychophysical loudness differences noted for pulse rates of 10 to 500 pulses per second in some of the patients that we have studied in greater detail. Author.

Causes of deafness in schools for the deaf in Madras. Gray, R. F. Commonwealth Society for the Deaf, London, UK. *International Journal of Pediatric Otorhinolaryngology* (1989) Dec, Vol. 18 (2), pp. 97–106.
Information has been collected by questionnaire from parents and teachers of 928 deaf school children in South India. Three hundred and seventy four of these children were examined during a 21-day visit to Madras. These findings are part of the outcome of the visit by a working party organised and financed by the Commonwealth Society for the Deaf. The Society has organised surveys of deafness in West Africa and Gambia. In this survey the causes of severe deafness in Madras have been identified. Streptomycin injections were responsible for 3.6 per cent of cases and meningitis for 5.3 per cent. Examination found 29 per cent of children with ophthalmic signs of intrauterine rubella. These could be prevented. Only a third of Indian mothers of children with eye signs are aware of having had rubella infection during pregnancy. Author.

The use of alcohol-stored cartilage in experimental laryngotracheal reconstruction. Albert, D. M., Cotton, R. T., Conn, P. Hospital for Sick Children, London, UK. *International Journal of Pediatric Oto-Rhinolaryngology* (1989) Dec, Vol. 18 (2), pp. 147–55.
Alcohol-stored homograft ear cartilage was used to reconstruct the larynx in an animal model. When sacrificed after one month the cartilage was incorporated in a stable position with mucosa on the luminal surface. Some resorption of implanted cartilage occurred, particularly where surgical trauma or sutures allowed granulation tissue to penetrate into the matrix. This paper emphasises the role that cartilage damage plays in resorption and strives to improve results in laryngotracheal reconstruction by highlighting the situations in which graft damage can be significant. Author.

Laryngeal diversion in the treatment of chronic aspiration in children. De Vito, M. A., Wetmore, R. F., Pransky, S. M. Department of Otolaryngology and Human Communication, Children's Hospital of Philadelphia, PA 19104. *International Journal of Pediatric Oto-rhinolaryngology* (1989) Dec, Vol. 18 (2), pp. 139–45.
Chronic aspiration in children can be life-threatening, especially in patients with underlying pulmonary disorders. Numerous surgical procedures have been described to treat chronic aspiration. In patients with severe chronic aspiration, laryngeal diversion is the most effective procedure for reducing soilage of the pulmonary tract. Over a 10-year period at the Children's Hospital of Philadelphia, 14 patients with life-threatening aspiration were managed with a laryngeal diversion. Surgical correction of aspiration resulted in stabilization or improvement of pulmonary function in these patients. The surgical management of chronic aspiration in the pediatric patient is discussed. Author.

Lateral cricoid cuts as an adjunctave measure to enlarge the stenotic subglottic airway: an anatomic study. Drake, A. F., Contencin, P., Narcy, F., Cotton R. T. Division of Otolaryngology—Head and Neck Surgery, University of North Carolina School of Medicine, Chapel Hill 27599–7070. *International Journal of Pediatric Oto-Rhinolaryngology* (1989) Dec, Vol. 18 (2), pp. 129–37.
The technique of laryngotracheoplasty, with an anterior approach, with or without a posterior cut, and with or without anterior or posterior cartilage grafts, has been described previously. On occasion, a severely stenotic subglottis or aberrant shape to the cricoid cartilage makes division of the lateral aspects of the cricoid cartilage desirable. In attempting to delineate the relationship of the recurrent laryngeal nerve to proposed lateral cricoid cuts, an anatomic study was conducted. Dissections of neonatal, infant, child and adult larynges and trachea were carried out, with the relative distance of a cut through the lateral cricoid cartilage to the recurrent laryngeal nerve measured and outlined. The distance was very close in the fetal larynx (measuring 1.5 mm in the 23rd week of gestational age), with an increase in dimension in the infant and child,

increasing to a distance of over 1 cm in the mature adult. The clinical significance of this relationship to proposed cuts of the lateral cricoid in different age groups is discussed. Author.

Comparison of the efficacy and side effects of aqueous steroid nasal spray (budesonide) and allergen-injection therapy (Pollinex-R) in the treatment of seasonal allergic rhinoconjunctivitis. Juniper, E. F., Kline, P. A., Ramsdale, E. H., Hargreave, F. E. Regional Chest and Allergy Clinic, St Joseph's Hospital, Hamilton, Ontario, Canada. *Journal of Allergy and Clinical Immunology* (1990) Mar, Vol. 85 (3), pp. 606–11.
The efficacy and side effects of two approaches to the treatment of ragweed pollen-induced rhinoconjunctivitis were compared in a double-blind, parallel-group trial. Sixty ragweed-sensitive adults were randomized either to a course of four Pollinex-R hyposensitization injections during the six weeks before the ragweed-pollen season, or to budesonide aqueous nasal steroid spray, 400 micrograms daily, throughout the season. A double-dummy technique was used to achieve blinding. During the ragweed-pollen season, troublesome nasal symptoms were treated with terfenadine, 60 mg, when treatment was needed, up to 240 mg daily, and eye symptoms were treated with naphazoline eye drops, when treatment was needed, up to four times daily. Every day, subjects recorded the severity of nasal and eye symptoms and medication use in a diary. Fourteen of the subjects receiving Pollinex-R were unable to complete the course of injections because of systemic or large local reactions. Eight subjects withdrew during the pollen season because of severe rhinitis; all subjects had received Pollinex-R. Subjects in the budesonide-treated group had minimal nasal symptoms and used very little terfenadine, compared with subjects in the Pollinex-R-treated group (p less than 0.0001). Eye symptoms and eye drop use were similar in the two treatment groups. No clinically important side effects were reported by the subjects receiving budesonide. The results of this study suggest that aqueous budesonide nasal spray is markedly more effective than Pollinex-R in controlling symptoms of seasonal rhinitis while the side effects and inconvenience of immunotherapy are avoided. Author.

Allergic Bipolaris sinusitis clinical and immunopathologic characteristics. Gourley, D. S., Whisman, B. A., Jorgensen, N. L., Martin, M. E., Reid, M. J. Department of Medicine, Wilford Hall United States Air Force Medical Center, Lackland Air Force Base, San Antonio, Texas. *Journal of Allergy and Clinical Immunology* (1990) Mar, Vol. 85 (3), pp. 583–91.
Allergic Aspergillus sinusitis was first reported in 1983. We present the first three cases of allergic fungal sinusitis caused by the black fungus Bipolaris spicifera. The patients were young, atopic, and immunocompetent. All three patients demonstrated pansinusitis with nasal polyps and underwent multiple surgical procedures. Pathologic features included a characteristic mucoid exudate containing eosinophils, Charcot-Leyden crystals, and fungal hyphae. In two cases there was bony erosion revealed by computed tomography scan but no histologic evidence of direct fungal invasion into the mucosa or bony trabeculae. Immunologic features, including total eosinophil count, total serum IgE, immediate and late-phase skin response to B. spicifera, serum precipitins, and specific IgE and IgG to B. spicifera, are described. B. specifera is a previously unrecognized cause of allergic fungal sinusitis that may be an underdiagnosed disorder. This diagnosis should be considered in atopic patients with nasal polyps and pansinusitis unresponsive to conventional medical therapy. Diagnostic criteria include characteristic histologic allergic mucin, culture identification of fungus, positive immediate cutaneous reactivity to fungal extract, positive serum precipitins, and elevated specific IgE and IgG antibodies. Author.

The prevalence and treatment needs of subjects with temporomandibular disorders. Schiffman, E. L., Fricton, J. R., Haley, D. P., Shapiro, B. L. TMJ and Craniofacial Pain Clinic, University of Minnesota School of Dentistry, Minneapolis 55455. *American Journal of Dental Association* (1990) Mar, Vol. 120 (3) pp. 295–303.
A cross-sectional study of prevalence of temporomandibular joint (TMJ) internal derangements, muscle disorders, and associated TM signs and symptoms was completed on 269 female nursing students. The prevalence of specific stages of internal derangements of the TMJ and muscle disorders was estimated, using established diagnostic criteria. The levels of dysfunction and symptomatology associated with each diagnosis were estimated with previously established indexes. When subjects with symptoms were asked if they had previous treatment for a TMJ problem, 6.7 per cent responded positively. When subjects with symptoms who had not had treatment were asked why they had not sought treatment, most responded that it was not a problem or they could live with the symptoms. Thus, most subjects with clinically detectable dysfunction are functioning adequately without significant symptoms and do not need treatment. Author.

New TMJ clinical data and the implication on diagnosis and treatment. Weinberg, L. A., Chastain, J. K. Department of Prosthodontics and Occlusion, NYU College of Dentistry. *Journal of American Dental Association* (1990) Mar, Vol. 120 (3), pp. 305–11.
A review of the literature and the presentation of 220 patients with acute temporomandibular disorders and a control group are presented. Condylar position in the fossae is related to clinical symptoms. Ten important clinical factors were recorded and the data compared without reference to specific condylar position in the fossae and then in relation to condylar displacement groups. The significantly high incidence of posterior condylar displacement and joint pain in the patients described in this report indicates that elimination of the term joint in our definition of this disorder may be premature. Author.

Carbon dioxide laser burn of laryngotracheobronchial mucosa. Bingham, H. G., Gallagher, T. J., Singleton, G. T., Gravenstein, J. S., Pashayan, A. G., Bjoraker, D. G. Department of Anesthesiology, University of Florida, Gainesville. *Journal of Burns and Care Rehabilitation* (1990) Jan-Feb, Vol. 11 (1), pp. 64–6.
A CO2 laser fire in the laryngotracheobronchial tree occurred because of an increase in fraction of inspired oxygen to greater than 40 per cent. An endotracheal tube was ignited and caused a severe burn of respiratory mucosa that required treatment in a burn intensive care unit. The patient had surprisingly few immediate respiratory complications and was discharged from the hospital 25 days after the burn. Author.

Successful treatment of malignant external otitis with oral ciprofloxacin: report of experience with 23 patients. Lang, R., Goshen, S., Kitzes-Cohen, R., Sade, J. Infectious Diseases Unit, Meir Hospital, Kfar-Saba, Israel. *Journal of Infectious Diseases* (1990) Mar, Vol. 161 (3), pp. 537–40.
Twenty-three consecutive patients with malignant external otitis (MEO) were treated with oral ciprofloxacin, 1.5–2.25 g/day for six weeks. Treatment was combined with local surgical debridement. Patients were discharged early for ambulatory follow-up. Few minor side effects were reported, and full compliance with the study drug was observed. In 21 patients cure was achieved; in two the response was not adequate. Oral ciprofloxacin is an effective, convenient, nontoxic, economically justified alternative to the combination intravenous therapy previously advocated. Author.

Microembolization and resection of a highly vascular pyogenic granuloma. Forman, D., Goldberg, H. I. Department of Radiology, Hospital of the University of Pennsylvania, Philadelphia. *Journal of Oral and Maxillofacial Surgery* (1990) Apr, Vol. 48 (4), pp. 415–18.
An unusual case is reported of a hypervascular pyogenic granuloma arising from the mandible which continued to grow postpartum in a person with an associated port-wine nevus. Microembolization of the lesions permitted complete surgical removal with minimal blood loss. This case supports the theory of arteriovenous anastomosis being associated with the pathogenesis of pyogenic granulomas. Author.

Long-term neurophysiologic outcome after neonatal extracorporeal membrane oxygenation. Lott, I. T., McPherson, D., Towne, B., Johnson, D., Starr A. Department of Pediatrics, University of California, Irvine. *Journal of Pediatrics* (1990) Mar, Vol. 116 (3), pp. 343–9.
We examined clinical and neurophysiologic measures in 10 children four to nine years after neonatal extracorporeal membrane oxygenation. Electroencephalograms did not correlate with clinical or other neurophysiologic measures of interhemispheric asymmetry. By ultrasound imaging, the right internal carotid artery velocity was approximately 62 per cent of that on the left, and right internal carotid flow was reduced by 74 per cent (p less than or equal to 0.01), whereas an age-matched control group showed no differences. A decrease in the amplitude of the long-latency auditory and somatosensory evoked potentials was noted over the right hemisphere after left-sided stimulation compared with the left hemispheric potentials after right-sided stimulation (p less than or equal to 0.005). No significant differences in hemispheric symmetry were noted in the amplitudes for wave V of the auditory brainstem response or in the P30 component of the middle-latency auditory evoked potentials. Likewise, latency measures of the evoked potentials were symmetric. We conclude that (1) neonatal extracorporeal membrane oxygenation is associated with long-lasting decreased right internal carotid blood flow with compensatory increased flow through the left carotid system and (2) there is a consistent reduction in the amplitude of right hemispheric long-latency evoked potentials. These latter findings may reflect redirected cerebral blood flow patterns after extracorporeal membrane oxygenation. Author.

Di George anomaly and velocardiofacial syndrome. Stevens, C. A., Carey, J. C., Shigeoka, A. O. Department of Pediatrics, Uni-

versity of Utah, Salt Lake City. *Pediatricts* (1990) Apr, Vol. 85 (4), pp. 526–30.
The velocardiofacial syndrome is an autosomal dominant disorder characterized by cleft palate, cardiac anomalies, characteristic facies, and learning disabilities. The Di George anomaly involves developmental defects of the third and fourth pharyngeal pouches, resulting in thymic and parathyroid hypoplasia and cardiac defects. The cases of individuals in two families help substantiate the notion that the Di George anomaly occurs as a feature of the velocardiofacial syndrome. The proband in family 1 was a male infant with persistent hypocalcemia and cardiac defects consisting of truncus arteriosus, atrial septal defect, ventricular septal defect, and abnormal aortic arch vessels. Autopsy revealed absence of thymic and parathyroid tissue, and the Di George anomaly was diagnosed. His father had a submucous cleft palate, T cell dysfunction, and facial features consistent with the velocardiofacial syndrome. This is the third case of male-to-male transmission of velocardiofacial syndrome. The proband of family 2 was a 4-year-old girl with developmental delay, persistent neonatal hypocalcemia, ventricular septal defect, T cell dysfunction, and facial features of the velocardiofacial syndrome. The Di George anomaly has been reported to occur in at least 18 different disorders. The observation that the Di George anomaly is a component manifestation of the velocardiofacial syndrome in these two families provides further evidence that the Di George anomaly is not a distinct syndrome of a single origin but rather a heterogeneous developmental field defect. It is proposed that all previously reported cases of autosomal dominant Di George anomaly are examples of the velocardiofacial syndrome. Author.

Abnormal maxillary sinus radiographs in children: do they represent bacterial infection? Arruda, L. K., Mimica, I. M., Sole, D., Weckx, L. L., Schoettler, J., Heiner, D. C., Naspitz, C. K. Division of Allergy, Paulista School of Medicine, Sao Paulo, Brazil. *Pediatrics* (1990) Apr, Vol. 85 (4), pp. 553–8.
Thirty-three children with chronic tonsillitis and/or adenoid enlargement and without previous diagnosis of sinusitis were studied regarding the bacterial flora of their maxillary sinuses. Puncture of maxillary sinus was performed at surgery (adenoidectomy and/or tonsillectomy) and aspirates were cultured. Streptococcus pneumoniae was isolated from 8 of 12 (66.7 per cent) patients whose X-rays showed completely opacified maxillary sinus. Streptococcus viridans, Streptococcus faecalis, and Staphylococcus epidermidis were recovered from 6 (28.6 per cent) of the 21 patients with normal maxillary sinus radiographs. Bacterial titers were greater than 10(4) colonies/mL in all but one of the positive cultures. No anaerobic bacteria were isolated. History of bronchial asthma, presence of nasal purulent secretion, elevated blood eosinophils, and elevated serum IgE were found more frequently in children with complete opacification of maxillary sinus. Serum levels of IgG2 were low in 29 per cent of the children, but no correlation was found between low IgG2 levels and positive cultures from maxillary sinus aspirates. We concluded that children with complete radiologic opacification of maxillary sinus had bacterial infection in almost 70 per cent of the cases with symptoms that did not prompt their physicians to consider the diagnosis of sinusitis. Author.

Can parents do a throat culture? Fragoso, M. A., Manning, L., Frenkel, L. D. Somerset Pediatric Group, Bridgewater, NJ. *Pediatric Infectious Diseases Journal* (1989) Dec, Vol. 8 (12), pp. 845–7.
Throat swabs for Group A beta-hemolytic Streptococcus were obtained from 98 patients, ages 4 to 17 years, both by their parents and by physician investigators. Compared with results obtained by physicians, there was a false negative rate of 32 per cent (P less than 0.001) for the parents. The discrepancy was greater in the youngest age group (38 per cent false negative rate in the 4- to 8-year-olds) compared with older children (P less than 0.001). The overall sensitivity and negative predictive value for the parent-obtained swabs were 68 and 45 per cent, respectively. In the 4- to 8-year-old group, these values were 62 and 37 per cent, respectively. Because there were no false positives the positive predictive value was 100 per cent. We conclude that the false negative rate for untrained parents obtaining throat swabs is too high to warrant the implementation of home testing for Group A streptococci. Author.

Efficacy of an intervention to promote use of hearing protection devices by firefighters. Ewigman, B. G., Kivlahan, C. H., Hosokawa, M. C., Horman, D. Department of Family and Community Medicine, University of Missouri, Columbia 65212. *Public Health Reports* (1990) Jan–Feb, Vol. 105 (1), pp. 53–9.
Numerous cases of hearing loss consistent with noise-induced damage were noted among firefighters in the city of Columbia, MO. A survey of firefighting vehicles in operation showed that the firefighters were exposed to excessive noise levels and put at risk for noise-induced hearing loss (NIHL). Audiologic evaluation showed that 36 per cent of the firefighters had moderate or severe hearing loss (a threshold of 40 decibels (dB) or more at 3,000, 4,000 or 6,000 hertz (Hz) in either ear). An educational program on NIHL was then carried out to increase the use of hearing protection devices (HPDs) by firefighters, followed by an evaluation of the intervention. The educational intervention successfully increased knowledge of NIHL, positive attitudes towards HPDs, and resulted in more frequent use of HPDs. After the intervention, 85 per cent of firefighters regularly used HPDs compared wtih 20 per cent before the intervention. Recommendations are made for fire departments to reduce the risk of NIHL. Author.

Massive bleeding in a Zenker's diverticulum. Hendren, W. G., Anderson, T., Miller, J. I. Joseph B. Whitehead Department of Surgery, Emory University School of Medicine, Atlanta, Ga. *Southern Medical Journal* (1990) Mar, Vol. 83 (3), p. 362.
Massive bleeding from a pharyngoesophageal diverticulum is a rarely reported condition, with only two reported cases in the literature. This report describes a patient who had massive bleeding due to ulceration in the base of a pharyngoesophageal diverticulum, presumed to have been caused by chronic aspirin ingestion. The diagnosis was made on upper gastrointestinal endoscopy, and surgical treatment (cricopharyngeal myotomy and diverticulectomy) was curative. Author.