

Abstracts of Current Literature*

Dental Hygiene and Public Health

A MEASUREMENT OF DENTAL CARIES PREVALENCE AND TREATMENT SERVICE FOR DECIDUOUS TEETH. A. O. GRUEBBEL. J. D. Res. 23:163, June 1944 (See Dental Caries)

DOMESTIC WATER AND DENTAL CARIES. H. T. DEAN, F. A. ARNOLD, JR., E. ELVOVE, DAVID C. JOHNSTON and E. M. SHORT, Pub. Health Rep. 57:1155, Aug. 7, 1942.

The subjects of this study included 7,257 white school children between the ages of 12 to 14 years from twenty-one cities. They were all children who had been exposed to the common water supply throughout life. A general inverse correlation between the fluoride concentrations of the public water supplies in the twenty-one cities studied was observed. Low prevalence of dental caries was found associated with use of domestic waters the fluoride content of which was as low as one part per million. As in previous studies marked differences were observed with respect to (a) the amount of dental caries in the proximal surfaces of the four superior permanent incisors and (b) the mortality rates of the first permanent molars. The authors assume that differences in the first molar mortality rates are influenced to a considerable degree by a variation in either the intensity of the attack of dental caries and/or the resistance of the teeth to the attack.

SANFORD, Chicago.

ORAL PROPHYLAXIS IN CHILDREN. E. DELLA CROCE, Rev Soc. pédiat. de la Plata 4:115, Dec. 1943.

Oral prophylaxis involves careful observation of the mother during gestation, proper diet for the child during infancy and childhood, correction of nasal abnormalities, avoidance of dental caries, prompt filling of cavities, retention of deciduous teeth until the permanent teeth are ready to erupt and avoidance of bad habits, such as sucking the thumb.

HIGGINS, Boston.

THE EFFECT ON CARIES INCIDENCE OF A SINGLE TOPICAL APPLICATION OF FLUORIDE SOLUTION TO THE TEETH OF YOUNG ADULT MALES OF A MILITARY POPULATION. F. A. ARNOLD, JR., H. T. DEAN, D. E. SINGLETON, JR. J. D. Res. 23:155, June 1944. (See Dental Caries)

Etiology

ANATOMICAL AND CLINICAL PROBLEMS INVOLVED WHERE EXTRACTION IS INDICATED IN ORTHODONTIC TREATMENT. GEORGE W. GRIEVE. Am. J. Orthodont. and Oral Surg., 30:437, Aug. 1944. (See Case Analysis and Diagnosis)

CONGENITAL MALFORMATIONS INDUCED IN RATS BY MATERNAL NUTRITIONAL DEFICIENCY: V. EFFECTS OF A PURIFIED DIET LACKING RIBOFLAVIN. JOSEF WARKANY and ELIZABETH SCHRAFFENBERGER, Proc. Soc. Exper. Biol. & Med. 54:92, Oct. 1943.

From previous work (Warkany and Nelson: Science 92:383, 1940) it was found that congenital malformations developed in the offspring of female rats fed on yellow cornmeal, wheat gluten, calcium carbonate and sodium chloride plus vitamin D and that these ab-

* The abstracts of current literature are prepared without comment or interpretation by the editorial staff of THE ANGLE ORTHODONTIST from the following sources: *Journal of the American Dental Association*, *American Journal of Orthodontics and Oral Surgery*, *Journal of Dental Research*, *Journal of Dental Education*, *Journal of the Canadian Dental Association*, *British Dental Journal*, *Dental Record* (British), *Child Development Abstracts and Bibliography*, *American Journal of Diseases of Children* (Abstract section), and other American and foreign periodicals from which abstracts are occasionally submitted. The abstracts represent a comprehensive though not a complete index of material and dental literature of interest to the specialty of Orthodontics.

normalities could be prevented by supplementing the maternal diet with 2 per cent dried pig liver. In these studies a different diet consisting of sucrose, casein, vegetable oil and salt mixed with various vitamin supplements save riboflavin was fed to 21 female rats of the Sprague-Dawley strain, mated to normal males of the same strain which were on adequate diets, with the production of 74 young rats. Ten of these newborn animals showed abnormalities of the type which the former diet produced. These malformations consisted of shortness of the mandible, tibia, fibula, radius and ulna, fusion of the ribs, sternal centers of ossification, syndactylism, bradydactylism and cleft palate.

HANSEN, Minneapolis.

GROWTH ASYMMETRY DUE TO LESIONS OF THE POSTCENTRAL CEREBRAL CORTEX. WILDER PENFIELD and J. S. M. ROBERTSON, *Arch. Neurol. & Psychiat.* 50:405, Oct. 1943.

From a study of the exposed brains of patients with focal epilepsy, the authors describe pathologic changes in the central nervous system associated with asymmetry of growth. They conclude that the latter condition is caused by failure of growth on one side rather than hypertrophy of the other side and that this failure in growth is due to cortical injury (evidenced by scars). In patients with bodily asymmetry the lesions were in the region of the central fissure, and they had occurred by the time the patient was 2 years of age.

BEVERLY, Chicago.

ORTHODONTIA. A. C. MIRANDA, *Rev. Soc. pédiat. de la Plata* 4:97, Dec. 1943.

Sucking is a common cause of deformation of the mouth; if a child is given a metal ring or tube with holes in it, sucking is prevented and yet the child has something to put in his mouth. A child should not sleep with his fist between the face and the pillow, nor should he lean his chin on his hand constantly while reading or studying.

Repeated colds cause changes in the nasal structure, and the dryness of the air caused by modern heating puts an extra burden on the mucous glands. The dentist should investigate possible nasal abnormalities or pathologic conditions before he tries to correct irregularities of the teeth.

HIGGINS, Boston.

THE MOTHER-BREAST FEEDER. ANTONIA M. KAZIMIROV. *Am. J. Orthodont. and Oral Surg.* 30:98, Feb. 1944.

The author has invented a device for bottle fed babies to simulate in the best possible manner the conditions of breast feeding. The instrument consists of the "feeder" and the "holder." It is felt that many habits such as thumb sucking, pillowing, lip biting, and so forth are caused by insufficient suckling exercise performed in ordinary nursing devices.

LEWIS, Dayton

WHAT TYPE OF MALOCCLUSION IS PREVENTABLE? P. C. WILLETT. *J.A.D.A.*, 31:1066, Aug. 1944.
(See Treatment and Retention)

Growth and Development

AN APPRAISAL OF TWEED'S BASIC PRINCIPLES. ALEXANDER SVED. *Am. J. Orthodont. and Oral Surg.* 30:115, Mar. 1944.

Sved discusses in general two of Tweed's principles. They are (1) that practically all malocclusions are characterized by a forward drift of the teeth in relation to their basal bones, and (2) that the mandibular incisors must be placed and maintained in an upright position over their basal bone.

In his examination of Tweed's first concept Sved gives his own views on the growth and development of the maxilla and mandible and quotes Hellman's opinions on the same subject. In support of his ideas Sved offers evidence produced by J. Sim Wallace. Sved concludes that Tweed's first principle is correct, but is concerned as to whether the condition represents a definite deformity or merely a stage in development. He believes it is a state of development and that function develops the basal structures and reduces what appears to be a maxillary protrusion.

J. Sim Wallace's photographs of skulls of various racial types are presented to indicate that alveolar bone is able to support the teeth in normal relation, even though the dental

arches positioned so that the anterior teeth are in front of the body of the mandible. Sved believes the arrangement and maintenance of lower anterior teeth upright over basal bone is not a requirement for permanent orthodontic results, and that there is a great variation in the normal axial inclination of the anterior teeth in different individuals.

The paper is discussed in full by Sidney E. Riesner and closes with a rebuttal by Sved.
LEWIS, Dayton.

THE FORMATION OF CEMENTUM. WILLIAM LEFKOWITZ. *Am. J. Orthodont. and Oral Surg.* 30:224, May 1944.

Cementum, the bony covering of the roots of the teeth, is a product of the periodontal membrane from which it derives its nourishment. Its primary function is to provide a means of attachment of the periodontal membrane to the root. Also it serves to repair resorbed areas of the root. It is associated with active eruption by continuous deposition.

Cementum formation may be divided into two parts. The formation of the primary layer is dependent upon a poorly or uncalcified base similar to the granular layer of Tomes. Further increments may be stimulated by the osteoid-like surface precementum.

LEWIS, Dayton.

Habits

INFLUENCE OF HEREDITY AND ENVIRONMENT ON THE CARIES PICTURE OF MONO-ZYGOTIC TWINS. WILLIAM H. BRUCKER, B.S., D.D.S. J.A.D.A. 31:931, July 1, 1944.

The caries picture in six pairs of twins assumed to be monozygotic were studied; a striking resemblance between the twins was required, with identical eye- and hair-color. Definite tendencies to coresemblance and cross resemblance were manifested in the dentitions. The speculation is raised as to whether we can expect an enamel superiority or caries immunity on the superior, handed side, in consideration of the fact that the handed side is considered to be a manifestation of the physiologic dominance of that side. Accompanied by an extensive bibliography.

WYLIE, San Francisco.

Heredity

INHERITANCE OF SUSCEPTIBILITY TO CARIES IN ALBINO RATS (*MUS NORVEGICUS*). H. R. HUNT, C. A. HOPPERS, W. G. ERWIN. *J. D. Res.* 23:385, Oct. 1944. (See Dental Caries)

Histology

A POSSIBILITY FOR PHYSIOLOGIC ORTHODONTIC MOVEMENT. ALBIN OPPENHEIM. *Am. J. Orthodont. and Oral Surg.*, 30:277, June-July, 1944. (See Treatment and Retention)

Nutrition and Metabolism

CONGENITAL MALFORMATION INDUCED IN RATS BY MATERNAL NUTRITIONAL DEFICIENCY: V. EFFECTS OF A PURIFIED DIET LACKING RIBOFLAVIN. JOSEF WARKANY and ELIZABETH SCHRAFFENBERGER, *Proc. Soc. Exper. Biol. & Med.* 54:92, Oct. 1943. (See Etiology)

NUTRITION: THE APPEARANCE OF THE TONGUE AS AN INDEX OF NUTRITIONAL DEFICIENCY. HAROLD JEGHNRS, *New England J. Med.* 227:221 (Aug. 6) 1942.

This is a lengthy article explaining in detail the diagnostic importance of the appearance of the tongue. Some of the subjects treated are: dry and coated tongue; pellagrous and riboflavin deficiency glossitis; glossitis from other deficiencies; Hunter's, Moeller's and atrophic glossitis; wandering rash of the tongue, and grooved and black, hairy tongue.

GENGENBACH, Denver.

Pathology

CYCLOPS AND ANENCEPHALUS. CID FERREIRA JORGE, *Rev. méd. munic* 4:57 (July) 1942.

The author describes and shows photographs of 3 fetal monsters, 1 cyclops and 2 anencephalous monsters. He discusses various causative factors and believes that syphilis was the effective factor in these instances of teratism.

SANFORD, Chicago.