

# Abstracts of Current Literature\*

## Anatomy

THE EARLY DEVELOPMENT OF THE HUMAN PREMAXILLA. SAMUEL W. CHASE. J.A.D.A. 29:1991, Nov. 1942. (See Growth and Development)

## Anthropology

DENTAL CONDITIONS IN WHITE AND INDIAN CHILDREN IN NORTHERN WISCONSIN. LESLIE W. FOSTER. J.A.D.A. 29:2251, Dec. 1942.

White and Indian children having comparable geographic environment are compared; differences with respect to incidence of dental caries and of malocclusion are so slight as to lead the author to conclude that while the Indians have a slight edge, their contact with civilization is rapidly eliminating whatever differences may have once existed.

WYLIE, San Francisco.

## Case Analysis and Diagnosis

DIAGNOSIS AND CORRECTION OF PATHOLOGIC OCCLUSION. DAVID W. MCLEAN. J.A.D.A. 29:1202, July 1942. (See Case Analysis and Diagnosis)

SUGGESTIONS TO THE GENERAL PRACTITIONER FOR THE PREVENTIONS OF MALOCCLUSION. CLAUDE R. WOOD. J.A.D.A. 29:776, May 1942. (See Dentistry and Dental Relations)

THE "KEY RIDGE" AS A DIAGNOSTIC AID IN ORTHODONTICS. M. ALDEN WEINGART. J.A.D.A. 29:1583, Sept. 1942.

The simple classification of Angle does not afford sufficient scope for the development of a diagnosis of inherent malocclusion as related to surrounding structures; the researches of Simon, Todd, Broadbent and Brodie have enlarged the scope of orthodontic diagnosis, while the "key ridge" concept of Atkinson supplements other data as a check for accuracy. Gnathostatic models are related to the Frankfort, median sagittal, and orbital planes and may be scribed for diagramming and comparison with norm patterns. The photostat is a further aid, as is the lateral roentgenogram, which permits measurement from various planes directly on bones. Roentgenograms of hands for comparison with Todd's standard's, and maxillary roentgenograms taken from above to delineate the "key ridge" are desirable.

WYLIE, San Francisco.

## Case Reports

(See Treatment and Retention)

## Dental Caries

CORRELATION AND COMPARISON OF LABORATORY FINDINGS WITH THE CLINICAL EVIDENCE OF CARIES ACTIVITY IN A GROUP OF SIXTY-SIX CHILDREN. MARSHALL L. SNYDER. J.A.D.A. 29:2001, Nov. 1942.

The group was studied a little longer than two years in an effort to correlate lactobacillus counts and acid-production (reflected by color changes in bromocresolgreen dextrose

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\* 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.

agar) with caries activity found in clinical examinations. The results suggest that a dentist might well rely upon routine culturing of saliva specimens for determining caries activity rather than upon single clinical examinations. Where caries activity is marked, positive color tests appear in 24 hours; questionable, 48 hours, negative activity, no color changes in 72 hours. There is a general relationship between rate of color change and number of lactobacilli per milliliter of saliva, but numbers alone are not the controlling factor. The colorimetric technique possesses the advantages of simplicity, rapidity and accuracy.

WYLIE, San Francisco.

**FURTHER STUDIES ON THE ROLE OF VITAMIN D IN THE NUTRITIONAL CONTROL OF DENTAL CARIES IN CHILDREN.** E. C. McBEATH AND W. A. VERLIN. J.A.D.A. 29: 1393, Aug. 1942.

Observations on five groups of children of forty each indicate that vitamin D in the form of cod-liver oil is effective in reducing the incidence of dental caries; irradiated ergosterol did not have an effect per USP unit equal to that of cod-liver oil. The authors point out that previous favorable reports on vitamin D in relation to caries have used cod-liver oil, while unfavorable ones have been based on investigations using ergosterol.

WYLIE, San Francisco.

**STUDY OF CARIES-FREE INDIVIDUALS: II. IS AN OPTIMUM DIET OR A REDUCED CARBOHYDRATE INTAKE REQUIRED TO ARREST DENTAL CARIES?** RUSSELL O. COLLINS, ARTHUR L. JENSEN, AND HERMANN BECKS. J.A.D.A. 29:1169, July 1942.

Upon the results of clinical and roentgenographic examination, 366 university students were classified in three groups of 122 each: caries-free, questionable caries activity and definite caries. Very high *L. acidophilus* counts were found in 87.7% of the rampant caries group, while 81.1% of the caries free group had no *L. acidophilus*.

Detailed dietary analysis showed that there was no difference between caries-free and caries-active groups with respect to "adequacy," but that the rampant caries group showed a markedly higher average intake of refined sugar. Individuals within each group reported carbohydrate intake values atypical for the group, suggesting that there is a refined sugar tolerance specific for the individual.

The authors feel that the concept of an "optimum diet" being effective in the prevention of caries is unsupported by these data.

WYLIE, San Francisco.

**THE ETIOLOGY AND CONTROL OF DENTAL CARIES.** LEONARD S. FOSDICK. J.A.D.A. 29:2132, Dec. 1942.

The factors involved in the etiology of dental caries are complex; titratable alkalinity, degree of supersaturation with calcium, rate of flow are properties of saliva which vary directly with clinical immunity. More than one organism is involved, and enzymes from saliva or the tissues are necessary for the production of acids in quantities sufficient to cause lesions. Morphologic imperfections of the teeth and stagnation areas about them tend to increase susceptibility to caries; it is shown that an exacting program of mouth hygiene can reduce incidence of caries when other factors are unchanged. Simple sugars, sucrose and maltose can cause rapid formation of acids; dietary control is effective in 90% of cases, although patient co-operation is difficult to elicit. Bacteriologic and chemical tests furnish systematic methods of appraising caries activity. An adequate bibliography accompanies the article.

WYLIE, San Francisco.

## Dental Hygiene and Public Health

**DENTISTRY'S PLACE IN A HEALTH SERVICE PROGRAM.** HOUGHTON HOLLIDAY. J.A.D.A. 29:1608, Sept. 1942.

Dentistry has received scathing criticism from some quarters of the medical profession, most of which is only partially true. A readjustment of medical education in the whole scheme of education and public health service is indicated; dentistry needs to be integrated with health service, but not absorbed by medicine. The author discusses the Harvard Plan and points out the methods used in encouraging dental teachers and researchers at Columbia.

WYLIE, San Francisco.

RACE BETTERMENT THROUGH PREVENTIVE DENTISTRY. WESTON A. PRICE, D.D.S., M.S., Cleveland Ohio. J.A.D.A. 29:213, Feb. 1942.

The greatest problem in the world today is race betterment. We are condemned to racial degeneration as shown by prevalence of degenerative diseases unless means are taken to insure a return to adequate nutritional programs. Depletion of the soil and the purification of foods is resulting in a handicapped civilization as shown by skulls and teeth of civilized and primitive man. The author seeks to discourage the use of synthetic food elements instead of natural ones. Organized dentistry should undertake the education of the public in the prevention of dental disease.

BLACK, Berkeley.

### Dentistry and Dental Relations

SOME GROWTH PROBLEMS OF THE ORTHODONTIST AND THE OPERATIVE DENTIST. KENNETH A. EASLICK. J.A.D.A. 29:1357, Aug. 1942.

A discussion of the problems common to the orthodontist and the dentist caring for children, with definite suggestions as to their solution. Illustrated with incidents from practice and accompanied by an adequate bibliography.

WYLIE, San Francisco.

SUGGESTIONS TO THE GENERAL PRACTITIONER FOR THE PREVENTIONS OF MALOCCLUSION. CLAUDE R. WOOD, D.D.S. Knoxville, Tenn. J.A.D.A. 29:776, May 1942.

This is an appeal to the dentist for more careful examinations of children's mouths with especial attention to occlusion. The subject is divided into 1) suggestions for the prevention of malocclusion and 2) suggestions for the early recognition of malocclusion and measures instituted to prevent gross abnormalities.

BLACK, Berkeley.

### Education, Legislation, Economics

ORTHODONTICS AND DENTISTRY IN LATIN AMERICA. SAMUEL FASTLIGHT, D.D.S., Mexico City, Mexico. J.A.D.A. 29:945, June 1942.

There is a brief summary of the standards of dental and orthodontic education and practice in each of the Central and South American countries, including Cuba, Haiti, Santo Domingo, and Puerto Rico. The author asks for closer social and scientific co-operation with Latin American groups and for formal support of a Pan American Dental Federation.

BLACK, Berkeley.

### Growth and Development

DANGEROUS EFFECTS OF VITAMIN D OVERDOSAGE ON DENTAL AND PARADENTAL STRUCTURES. HERMANN BECKS. J.A.D.A. 29:1947, Nov. 1942. (See Nutrition and Metabolism)

LOCALIZED VERTICAL GROWTH DISTURBANCE. D. D. GLUCKSMAN, D.D.S., New York, N.Y. J.A.D.A. 29: 184, Feb. 1942.

Report of a case in which all deciduous molars were left behind due to lack of vertical growth in these areas. Such lack of vertical growth may be present in either deciduous or permanent dentition and the affected teeth may become submerged and eventually simulate impacted teeth.

BLACK, Berkeley.

THE EARLY DEVELOPMENT OF THE HUMAN PREMAXILLA. SAMUEL W. CHASE. J.A.D.A. 29:1991, Nov. 1942.

A study of thirty serially sectioned human embryos (15 to 40 mm. long) was made; graphic reconstructions of certain ones were made by projecting to the horizontal and sagittal planes. The human premaxilla begins ossification in the eighth week (or early in the ninth week) of intrauterine life, arising shortly after or at the same time as does the maxillary center of ossification. Ordinarily these centers are separated by a suture representing the incisive suture. The body and the labial alveolar process join with the

maxilla normally before the middle of the ninth week. The palatine process usually grows directly from the body, although a separate ossification center is a common variation. The incisive suture is closed in the body, labial alveolar process and facial aspect of the frontal process from the early stages on. In a brief historical survey the author points out that much of the investigation of the past has been misdirected in that it sought to explain variable relations of teeth and their supporting bone to maxillary clefts; it has been shown that the conditions responsible for cleft lip, jaw and palate are present before formation tissues for either bone or teeth. Much of controversy of past has been due to chance selection of variant or aberrant stages.

WYLIE, San Francisco.

VARIATIONS IN CALCIFICATION AND ERUPTION OF THE DECIDUOUS AND THE PERMANENT TEETH.  
JOHN C. BRAUER AND MASSIS A. BAHADOR. J.A.D.A. 29:1373, Aug. 1942.

A consideration of calcification age, eruption age and chronologic age in relation to clinical problems. The dentitions of 315 children drawn from four groups (diabetic, general hospital group, congenitally syphilitic and presumably well) were appraised against the chart of Schour and Massler. No difference between the four groups with respect to calcification and eruption was apparent. 66% had averaged schedules of calcification and eruption, when considered separately.

WYLIE, San Francisco.

## Nutrition and Metabolism

DANGEROUS EFFECTS OF VITAMIN D OVERDOSAGE ON DENTAL AND PARADENTAL STRUCTURES.  
HERMANN BECKS. J.A.D.A. 29:1947, Nov. 1942.

Previous reports on this subject show a great deal of variation; results are not comparable in many instances owing to the fact that different sources and quantities of vitamins were used in different experiments, basal diets and the duration of experiments differed, and animals differed in species and ages. In this study two litters of thoroughbred cocker spaniels were used; specimens were studied roentgenographically and histologically. It was found that with overdosage of Vitamin D, the growth and development of jaws and teeth are retarded; optimum amounts of vitamins A and D favor production of strong teeth and jaws, while optimum amounts of vitamin D and excessive amounts of vitamin A are even more favorable for growth of jaws and teeth. Generalized osteosclerosis of the jaw bone and paradental structures, malformed teeth, pulp stones and malocclusion follow the administration of excessive amounts of vitamin D, although the effects are less pronounced when tuna oil rather than irradiated ergosterol is the source of the vitamin D. Excessive vitamin A decreases the injurious effects of excessive vitamin D. The indiscriminate use of vitamin D therapy is potentially very harmful; natural fish oils are less dangerous than the irradiated products.

WYLIE, San Francisco.

RACE BETTERMENT THROUGH PREVENTIVE DENTISTRY. WESTON A. PRICE. J.A.D.A. 29:213, Feb. 1942. (See Dental Hygiene and Public Health)

## Pathology

A CLINICAL AND ROENTGENOGRAPHIC STUDY OF PERIODONTIC PROBLEMS IN CHILDREN WITH SYSTEMIC DISEASE. C. HARLAN BLACKSTONE. J.A.D.A. 29:1664, Sept. 1942.

A discussion of the soft tissue and alveolar bone conditions in child patients with diabetes mellitus, congenital syphilis, scurvy and aplastic anemia, supplemented with roentgenograms, case reports, photographs and a bibliography.

WYLIE, San Francisco.

LOCALIZED VERTICAL GROWTH DISTURBANCE. D. D. GLUCKSMAN. J.A.D.A. 29:184, Feb. 1942. (See Growth and Development)

## Physiology

DIAGNOSIS AND CORRECTION OF PATHOLOGIC OCCLUSION. DAVID W. McLEAN. J.A.D.A. 29:1202, July 1942.

Pathologic occlusion—any form of occlusion in which the normal functions of the dentures as a multibladed shearing mechanism cannot be performed—and its role in periodontal disease is discussed. The author describes eccentric intercuspation, centric interference and excursive interference and gives technics for dealing with these conditions.

The importance of timely orthodontic treatment—preventive and corrective—is stressed, as is the integrity of proper centric relationships. "Spot-grinding," in McLean's opinion, is obsolete.

WYLIE, San Francisco.

FACTORS IN THE POSITION OF THE MANDIBLE. JOHN R. THOMPSON AND ALLAN G. BRODIE. J.A.D.A. 29:925, June 1941. (See Temporomandibular Joint)

MANDIBULAR MOVEMENTS IN MASTICATION. L. E. KURTH. J.A.D.A. 29:1769, Oct. 1942. (See Temporomandibular Joint)

## Temporomandibular Joint

FACTORS IN THE POSITION OF THE MANDIBLE. JOHN R. THOMPSON AND ALLAN G. BRODIE. J.A.D.A. 29:925, June 1941.

Ten years of study of normal growth and function in the human head, supplemented by serial studies of orthodontic and prosthetic patients, justify the following beliefs: the form and proportions of the human mandible and its position in relation to the rest of the face and head are determined at an early age and do not change; the presence or absence of teeth has no bearing on the form of the mandible exclusive of the alveolar process, and no bearing upon the physiologic rest position of the mandible, which is determined by a balance between the postcervical muscles and the muscles which lie anterior to them; the proportions of any face, as far as vertical height is concerned, are constant throughout life, and the mean nasal height is 43 per cent. The Costen syndrome is not the result of a new position of the mandible through loss of dental height, but is induced by overclosure in function; its basis is neuromuscular rather than mechanical. If the mandible is carried, by artificial restorations, to a position beyond that of physiologic rest, it will return to its preordained position through an accommodation of the alveolar process or a depression of the abutment teeth.

WYLIE, San Francisco.

MANDIBULAR MOVEMENTS IN MASTICATION. L. E. KURTH. J.A.D.A. 29:1769, Oct. 1942.

A specially constructed face-bow was used to obtain simultaneous graphing of both condyles and the incisor point in three planes of space, and stroboscopic motion pictures were used to augment the data of the graphic method. Mandibular movements in the chewing cycle are the mandibular glide and the stroke of mastication. The mandibular glide may be divided into right and left lateral, protrusive, and opening movements. A combination of lateral movements and the opening movement are involved in the actual chewing stroke; protrusive movement is not a factor. The actual stroke of mastication is not contained within the included angle of the gothic arch and the only clinical purpose of the latter is the ascertainment of centric relation at a definite vertical opening; articulator adjustments made from the lateral movements or the protrusive record of the gothic arch are of questionable value. No evidence of any spherical movement of the mandible was obtained. Three-dimensional models are used to visualize mandibular movements. Chicago Dental Society Essay Award, 1942.

WYLIE, San Francisco.

## Treatment and Retention

RAPID TREATMENT IN CERTAIN TYPES OF MALOCCLUSION. BERT G. ANDERSON, D.D.S., New Haven, Conn. J.A.D.A. 29:577, Apr. 1942.

A report of 24 cases with 1 or more anterior maxillary teeth in lingual occlusion which

were treated by either fixing the teeth and jaws in a favorable position by ligating with brass ligature wire or by the use of spurs on individual bands as individual bite planes. Treatment was terminated in from 2 days to several weeks and all cases have been watched from 1 to 5 years. There was no clinical or x-ray evidence of tissue destruction and all occlusal deformities were corrected or improved. The author concludes that "(1) more rapid treatment of malocclusion is justified, at least in certain cases, (2) regional and short-period treatment may initiate corrective development which may continue after such treatment has been terminated and (3) an interrupted pressure which increases the circulation is probably more favorable for tooth movement than a constant one."

BLACK, Berkeley.

THE OPTIMUM TIME FOR ORTHODONTIC TREATMENT. MILO HELLMAN, D.D.S., Sc.D., New York, N.Y. J.A.D.A. 29:622, Apr. 1942.

Among orthodontists there seems to be no general agreement as to the best time to start the treatment of malocclusion. In the author's opinion, early treatment of cases is a failure as judged by clinical results. Such treatment may extend into too great an expenditure of time and money. To be of greatest benefit, treatment should be completed in a short time and should be begun at the time of maximum facial growth, which is about 1 year before the expected eruption of the second molars.

BLACK, Berkeley.

WHY ORTHODONTIA CASES FAIL. HOWARD E. STRANGE, D.D.S., Chicago, Ill. J.A.D.A. 29:395, Mar. 1942.

Biological knowledge and application are important factors in the treatment of malocclusion. Many failures in treatment are due to lack of knowledge, experience or judgment on the part of the operator, or to lack of knowledge regarding the mechanics of the appliance used. The ideal should be the guide in treatment, but sometimes it is a mistake to try to attain that ideal.

BLACK, Berkeley.

## NOTICE

THE January and April 1943 numbers of THE ANGLE ORTHODONTIST have been issued under one cover, and the policy will be followed combining the July and October numbers. After careful consideration this policy was adopted to rectify the inconvenience to subscribers of the delayed publication dates, a source of annoyance and uncertainty, particularly to dental libraries and institutions. Moreover the present restrictions upon paper make it impossible to bring the publication up to date in the current year. In view of these circumstances this decision is believed to be the most expedient solution and is considered only as a temporary policy bridging an emergency.

Accordingly, the subscription price for the 1943 ANGLE ORTHODONTIST will be reduced \$2.50. Those subscribers who have paid \$5.00 for their 1943 subscription will have a \$2.50 credit toward their 1944 subscription.

Single copies of the combined numbers will be sold for \$1.25 each, the same price that is charged for one number.

HAROLD J. NOYES, *Editor*