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Richard Niederman and Jason Leitch
The authors argue for forging a link between research protocols that address the "know what" and clinical "know how".

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REVIEW

CRITICAL REVIEWS IN ORAL BIOLOGY & MEDICINE

Dental Flossing and Interproximal Caries: a Systematic Review.................. 298
P.P. Hujoel, J. Cunha-Cruz, D.W. Banting, and W.J. Loesche
The authors systematically assessed the effect of flossing on interproximal caries risk in children ages 4 to 13 years.

A Critical Review of Non-carious Cervical (Wear) Lesions and the Role of Abfraction, Erosion, and Abrasion........................................................ 306
D.W. Bartlett and P. Shah
The authors critically review the literature on abrasion, erosion, and abfraction.
Cigarette Smoking Increases the Risk of Root Canal Treatment

E.A. Krafl, C. Abreu Sosa, C. Garcia, M.E. Nunn, D. J. Caplan, and R.I. Garcia

There is a dose-response relationship between cigarette smoking and the risk of root canal treatment.

Subgingival and Tongue Microbiota during Early Periodontitis


Periodontal pathogens, including periodontitis-associated phylotypes, were detected in early periodontitis.

Stress, Cortisol, and Periodontitis in a Population Aged 50 Years and Over

J.B. Hilgert, F.N. Hugo, D.R. Bandeira, and M.C. Bozzetti

This is one of the first studies to evaluate the important role of the hyperactivation of the hypothalamus-pituitary-adrenal axis, measured by salivary levels of cortisol, on the extent and severity of chronic periodontitis.

Phenotypic Variation in Dentinogenesis Imperfecta / Dentin Dysplasia Linked to 4q21


Type II dentin dysplasia and dentinogenesis imperfecta are the same disease, differing mainly in the severity of the underlying genetic defect and resulting clinical phenotype.

Dental Plaque pH and Micro-organisms during Hyposalivation

L. Eliasson, A. Carlén, A. Almståhl, M. Wikström, and P. Lingström

The authors found an acidogenic response to sugar challenge, concomitant with a shift toward a more acidogenic microflora, in proximal dental plaque in individuals hyposalivated due to radiation therapy but not in individuals with primary Sjögren’s syndrome.

Oral Health Beliefs in Adolescence and Oral Health in Young Adulthood

J.M. Broadbent, W.M. Thomson, and R. Poulton

This is the first study to consider the stability of dental beliefs as a predictor of oral health.

Finger Osteoarthritis and Differences in Dental Work Tasks


This is the first study to show that the pattern of work tasks during work History is related to osteoarthritis in the fingers.

Development of a Self-etch Adhesive For Resin-modified Glass Ionomers


The self-etch technique is a promising approach to ionomer-tooth interfaces, since it
enhances the user-friendliness of resin-modified glass ionomers and lowers their technique-sensitivity.

**Effects of a Hydroxyapatite-based Biomaterial on Gene Expression in Osteoblast-like Cells**

P. Sibilla, A. Sereni, G. Aguiari, M. Banzi, E. Manzati, C. Mischiati, L. Trombelli, and L. del Senno

The authors profile the expression of genes involved in molecular pathways mediating Biostite®-induced signaling during early osteoblast differentiation of human osteoblast-like cells.

**Enamel Demineralization in Primary and Permanent Teeth**


Nanosized crystallites may contribute to the remarkable mechanical and dynamic characteristics of enamel.

**Impact of Endodontic Treatments on the Rigidity of the Root**

H. Lang, Y Korkmaz, K. Schneider, and W.H.-M. Raab

Both substance loss and modifications of the natural root canal geometry play an important role in tooth rigidity.

**BIOLOGICAL**

**Streptococcus mutans: Fructose Transport, Xylitol Resistance, and Virulence**

J.M. Tanzer, A. Thompson, Z. T Wen, and R.A. Burne

Streptococcus mutans with a defective fructose transport gene that also renders the cell xylitol-resistant has diminished ability to colonize rats and diminished ability to induce decay into dentin.

**Role of Secreted Frizzled-related Protein 1 (SFRP1) in Wound Healing**

C.H. Li and S. Amar

Blocking secreted frizzled-related protein 1 results in improvement of palatal healing outcomes.

**Effects of Isoflurane on Parasympathetic Vasodilatation in the Rat Submandibular Gland**

K. Mizuta, E Mizuta, M. Takahashi, H. Ishii, T. Niioka, and H. Izumi

The authors discuss mechanisms by which inhalation anesthetics as well as general anesthetics evoke inhibitory effects on parasympathetic-mediated vasodilatation in the rat submandibular gland.

**ABOUT THE COVER:**

Tooth after instrumentation (ISO 110) and after parallel-sided post preparation for More details, see pages 364-368