Contents, Vol. 19, 1985

No. 1  Basic Sciences
Chemical and Histological Changes during Development of Artificial Caries
Featherstone, J.D.B.; Holmen, L.; Thylstrup, A.; Fredebo, L.; Shariati, M  1
A Scanning Electron Microscopic Study of Surface Changes during Development of Artificial Caries
Holmen, L.; Thylstrup, A.; Featherstone, J.D.B.; Fredebo, L.; Shariati, M  11
Kinetic and Thermodynamic Aspects of Enamel Demineralization
Margolis, H.C.; Moreno, E.C  22
Development of Carious-Like Lesions in Partially Saturated Lactate Buffers
Margolis, H.C.; Murphy, B.J.; Moreno, E.C  36
Long-Term Retention and Effectiveness of APF and Neutral KF Fluoridation Agents on Sound and Etched Bovine Enamel
Valk, J.W.P.; Duijsters, P.P.E.; Cate, J.M. ten; Davidson, C.L  46
Transport and Phosphorylation of Xylitol by a Fructose Phosphotransferase System in Streptococcus mutans
Trahan, L.; Bareil, M.; Gauthier, L.; Vadeboncoeur, C  53
Additive Inhibitory Effects of Combinations of Fluoride and Chlorhexidine on Acid Production by Streptococcus mutans and Streptococcus sanguis
McDermid, A.S.; Marsh, P.D.; Keevil, C.W.; Ellwood, D.C  64
Effects of Ionic Organic Materials on Enamel Demineralization (Short Communication)
Tung, M.S.; Brown, W.E  72
Clinical Science
Changes in Caries Prevalence among Adolescents in Budapest, Hungary, from 1975 to 1982
Bánóczy, J.; Boross, É.; Nemes, J.; Ember, G.; Pados, R  76
An Empirically Based System to Estimate the Effectiveness of Caries-Preventive Agents.
A Comparison of the Effectiveness Estimates of APF Gels and Solutions, and Fluoride Varnishes
Clark, D.C; Hanley, J.A.; Weinstein, P.L.; Stamm, J.W  83
Announcement  96
No. 2  Basic Sciences
Micro-Sampling by Abrasion
Weatherell, J.A.; Robinson, C; Strong, M.; Nakagaki, H  97
Enamel Fluoride Profile Construction from Biopsy Data
Chow, L.C.; Beaudreau, G.M.; Brown, W.E.103
Raman Spectra of Phosphate and Monofluorophosphate Ions in Several Dentally-Relevant Materials
Nelson, D.G.A.; Williamson, B.E  113
Effect of Soluble Calcium on Fluoride Uptake by Artificial Caries Lesions in vivo
Mellberg, J.R.; Chomicki, W.G  122
IV Contents
Remineralization in vivo of Artificial Caries Lesions by a Monofluorophosphate Dentifrice
Mellberg, J.R.; Chomicki, W.G.; Mallon, D.E.; Castovance, L.A 126
Intraoral Demineralization and Maltose Clearance from Wheat Starch
Brudevold, F.; Goulet, D.; Tehrani, A.; Attarzadeh, F.; Houte, J. van 136
Animal Studies
Single Fluoride Doses and Enamel Fluorosis in the Rat
Angmar-Månsson, B.; Whitford, G.M 145
Abstracts
Abstracts of Papers Presented at the 31st ORCA Congress
July 4-7, 1984, Nordwijkerhout, The Netherlands 153
No. 3 Basic Sciences
Stability of Selected Plaque Species and Their Relationship to Caries in a Child Population over 2 Years
Burt, B.A.; Loesche, W.J.; Eklund, S.A 193
ATP Content and Viability of Human Dental Plaque during Prolonged Starvation
Greger, J.E.G.; Eisenberg, A.D 201
Effect of Sucrose as a Gustatory Stimulus on the Flow Rates of Parotid and Whole Saliva
Lagerlöf, F.; Dawes, C 206
Rehardening Properties of Mucin- or CMC-Containing Saliva Substitutes on Softened Human Enamel. Effects of Sorbitol, Xylitol and Increasing Viscosity
Chemical and Physical Evaluation of Dialyzed-Reconstituted Acidified Gelatin Surface Lesions of Human Enamel
Feagin, F.F.; Clarkson, B.H.; Wefel, J.S 219
Self-Gelling Liquid Composition for Topical Application of Medications
Gron, P.; Caslavska, V 228
Influence of Tooth Paste Particle Size and Tooth Brush Stiffness on Dentine Abrasion in vitro
De Boer, P.; Duinkerke, A.S.H.; Arends, J 232
Fluoride Uptake by Dentin Surfaces following Topical Application of TiF4, NaF and Fluoride Varnishes in vivo
Tveit, A.B.; Töldal, B.; Klinge, B.; Nilvéus, R.; Selvig, K.A 240
An Evaluation of Three Procedures for Fluoride Analysis
Retief, D.H.; Summerlin, D.-J.; Harris, B.E.; Bradley, E.L 248
Intraoral Uptake of Fluoride by Presoftened Enamel following Systemic Administration and Fluoride Mouthrinsing
Zimmermann, M.B.; Koulourides, T.; Muhammad, N.A.; Corpron, R.E.; Higuchi, W.I.; Kowalski, C.J 255
Fluoride Concentration in Deciduous Enamel in High- and Low-Fluoride Areas (Short Communication)
Iijima, Y.; Katayama, T 262
Effect of Alpha-Amylase Inhibitors and Other Compounds on Glucosyltransferase Activity (Short Communication)
Takehara, T.; Newbrun, E.; Hoover, C.I 266
A 3-Year Longitudinal Caries Study of Permanent Tooth Surfaces at Risk in Finnish School Children
Nordblad, A.; Larmas, M 271

Caries Prevalence and Dental Fluorosis in German Children in Areas with Different Concentrations of Fluoride in Drinking Water Supplies
Hellwig, E.; Klimek, J278

The Relationship between Anticaries Activity of Monofluorophosphate Dentifrices and Their Performances in Laboratory Tests
Duke, S.A.; Forward, G.C 284

No. 4 Basic Sciences
The Microflora Associated with Developing Lesions of Nursing Caries
Milnes, A.R.; Bowden, G.H.W 289

The Microflora Associated with the Progression of Incipient Carious Lesions in Teeth of Children Living in a Water-Fluoridated Area
Boyar, R.M.; Bowden, G.H 298

Adenosine 5’-Triphosphate Content of Streptococcus mutans GS-5 during Fluoride-Mediated Death at Low pH
Greger, J.E.G.; Izaguirre-Fernández, E.J.; Eisenberg, A.D 307

Adenosine 5’-Triphosphate Content of Streptococcus mutans GS-5 during Starvation in a Buffered Salt Medium
Greger, J.E.G.; Eisenberg, A.D 314

Determination of Salivary Streptococcus mutans Level in a Stable Sucrose-Sulphasomidine-Containing Broth
Kalfas, S.; Edwardsson, S.; Birkhed, D 320

Effect of Human Milk on Plaque pH in situ and Enamel Dissolution in vitro Compared with Bovine Milk, Lactose, and Sucrose
Rugg-Gunn, A.J.; Roberts, G.J.; Wright, W.G 327

Enhancement of (Salivary) Remineralization by ‘Dipping’ Solutions
Cate, J.M. ten; Shariati, M.; Featherstone, J.D.B 335

F” Uptake Inhibition by Excess Phosphate during Fluoridated Apatite Formation
Okazaki, M.; Takahashi, J.; Kimura, H 342

A Polarized Light Microscopic Study of Progressive Stages of Enamel Caries in vivo
Holmen, L.; Thylstrup, A.; Øgaard, B.; Kragh, F 348

A Scanning Electron Microscopic Study of Progressive Stages of Enamel Caries in vivo
Holmen, L.; Thylstrup, A.; Øgaard, B.; Kragh, F 355

Animal Studies
Effect of Calcium Lactate and Calcium Lactophosphate on Caries Activity in Programme-Fed Rats (Short Communication)
Hoeven, J.S. van der 368

Clinical Science
Posttreatment Benefits from Participation in a School-Based Fluoride Mouthrinsing Program: Results after up to 7 Years of Rinsing
Leske, G.S.; Ripa, L.W.; Sposato, A.; Rebich, T., Jr 371
The Use of Fibre-Optic Transillumination in the Diagnosis of Posterior Approximal Caries in Clinical Trials (with 1 colour plate)
Mitropoulos, CM 379

Basic Sciences
The Relationship between Dental Caries and Tooth Enamel Fluoride
Mellberg, J.R.; Ripa, L.W.; Leske, G.S.; Sanchez, M.; Polanski, R 385
Posteruptive Maturation of Tooth Enamel Studied with the Electron Microprobe
Enamel Lesion Formation with and without 0.12 ppm F in Solution
Borsboom, P.C.F.; Mei, H.C. v.d.; Arends, J 396
Scanning X-Ray Microradiographic Study of the Formation of Caries-Like Lesions in Synthetic Apatite Aggregates
Anderson, P.; Elliott, J.C 403
In vivo Effect of a Fluoridating Varnish with Various Fluoride Contents on Human Enamel
Bruyn, H. de; Hummel, M.; Arends, J 407
Effect of Salivary Lysozyme on Glucose Incorporation and Acid Production in Streptococcus mutans
Twetman, S.; Lindqvist, L 414
Effect of a School-Based Plaque Control Programme on the Microbiology of Dental Plaque
Ashley, F.P.; Wilson, R.F.; Woods, A.P.M 422
The Effect of Low Doses of Fluoride on the Content of Cyclic AMP and Amylase in Human Parotid Saliva
Mörnstad, H.; Dijken, J. van 433
Maltotriitol Inhibition of Maltose Metabolism in Streptococcus mutans via Maltose Transport, Amylomaltase and Phospho-α-Glucosidase Activities
Würsch, P.; Koellreutter, B 439
Time Dependence of F Uptake in Demineralized Enamel from 1,000-ppm Fluoride NaF and Na2FP03 Solutions. A Secondary Ion Mass Spectrometric Study (Short Communication)
Arends, J.; Schuthof, J.; Petersson, L.; Lodding, A 450
Effect of Fluoride, Lithium or Strontium on Acid Production by Pelleted Human Dental Plaque (Short Communication)
Eisenberg, A.D.; Wegman, M.R.; Oldershaw, M.D.; Curzon, M.EJ 454

Animal Studies
Effect of Two Recently Developed Antiseptics on Dental Plaque and Caries in Rats
Shern, R.J.; Monell-Torrens, E.; Kingman, A 458

Clinical Science
Plasma Fluoride Levels in 9 Children with Acute Lymphatic Leukaemia Using Daily Self-Applied Fluoride Gels
Purcell-Lewis, D.J.; Dijk, H.A. van; Heeres, G.J.; Flissebaalje, T.D.; Groeneveld, A.; Booji, M 475

Contents VII
Initiation and Progression of Caries-Like Lesions of Enamel: Effect of Periodic Treatment with Synthetic Saliva and Sodium Fluoride
Hicks, M.J.; Flaitz, C.M.; Silverstone, L.M. 481

Lesion Formation and Lesion Remineralization in Enamel under Constant Composition Conditions. A New Technique with Applications
Buskes, J.A.K.M.; Christoffersen, J.; Arends, J 490

Selection of a Micromethod and Its Use in the Estimation of Salivary Streptococcus mutans and Lactobacillus Counts in Relation to Dental Caries in Tanzanian Children
Matee, M.I.; Mikx, F.H.M.; Frencken, J.E.F.N.; Train, G.J.; Ruiken, H.M.H.M. ... 497 Effect of Saliva Substitutes upon Binding of Selected Oral Bacteria to Hydroxyapatite (Short Communication)
Wolinsky, L.E.; Seto, B.; Cerveny, R 507

Measurements of Alkaline Phosphatase Activity in Fetal Bovine Enamel (Short Communication)
Sailing, E.; Kirkeby, S.; Moe, D 512

Animal Studies
A Simple Model for Root Caries and Alveolar Bone Recession in Rats (Short Communication)
Guggenheim, B.; Lutz, F 516

Clinical Science
Development of Dental Fluorosis according to Age at Start of Fluoride Administration
Larsen, M.J.; Richards, A.; Fejerskov, O 519

Influence of Xylitol- and/or Fluoride-Containing Toothpastes on the Remineralization of Surface Softened Enamel Defects in vivo
Smits, M.T.; Arends, J 528

Measurement of Human Plaque Acidity: Comparison of Interdental Touch and Indwelling Electrodes

In vivo Plaque Formation on Enamel Surfaces Treated with Topical Fluoride Agents
Dijkman, A.G.; Nelson, D.G.A.; Jongeboed, W.L.; Weerkamp, A.H.; Arends, J ... 547

33rd Annual ORCA Congress 1986 558
ORCA-Rolex Prize, and Other Events 559
Acknowledgements 560
Author Index 562
Subject Index 565