<table>
<thead>
<tr>
<th>No. 1</th>
<th>Basic Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Mineral Loss during Etching of Enamel Lesions</td>
<td>Dorp CSE van, Exterkate RAM, ten Cate JM</td>
</tr>
<tr>
<td>11. Enamel Fluoride Uptake Affected by Site of Application: Comparing Sodium and Amine Fluorides</td>
<td>Mok Y, Hill FJ, Newman HN</td>
</tr>
<tr>
<td>18. Enhanced Root Fluoride Uptake by Monocalcium Phosphate Monohydrate Gels</td>
<td>Takagi S, Chow LC, Schreiber CT</td>
</tr>
<tr>
<td>30. Enhanced Uptake of Monofluorophosphate by Hydroxyapatite (Short Communication)</td>
<td>Root MJ, Schreiber RS</td>
</tr>
<tr>
<td>33. Antimicrobial Activity of N-Alkylpolymethylenediamines against Some Dental Plaque Bacteria (Short Communication)</td>
<td>Murata Y, Ueda M, Miyamoto E</td>
</tr>
<tr>
<td>36. Comparative Recovery of Mutans Streptococci on Two Selective Media (Short Communication)</td>
<td>Svanberg M, Krasse B</td>
</tr>
<tr>
<td>39. Animal Studies</td>
<td></td>
</tr>
<tr>
<td>39. Effects of Lactate Dehydrogenase on Fissure Caries in Rats</td>
<td>Higham SM, Edgar WM</td>
</tr>
<tr>
<td>44. Clinical Sciences</td>
<td></td>
</tr>
<tr>
<td>44. Diurnal Fluoride Concentration in Whole Saliva in Children Living in a High- and a Low-Fluoride Area</td>
<td>Oliveby A, Twetman S, Ekstrand J</td>
</tr>
<tr>
<td>52. Effect of Dental Plaque Age and Bacterial Composition on the pH of Artificial Fissures in Human Volunteers</td>
<td>Igarashi K, Lee IK, Schachtele CF</td>
</tr>
<tr>
<td>52. Caries Development in Children in Relation to the Presence of Mutans Streptococci in Dental Plaque and of Serum Anti bodies against Whole Cells and Protein Antigen I/II of</td>
<td></td>
</tr>
</tbody>
</table>
Streptococcus mutans
Tenovuo J, Lehtonen OP, Aaaltonen AS  59
Caries Experience in the Deciduous Dentition as Predictor for Caries in the Permanent Dentition
ter Pelkwijk A, Palenstein Helderman WH van, Dijk JWE van  65
Caries Preventive Effect of Fluoride Dentifrices with and without Anticalculus Agents: A 3-Year
Controlled Clinical Trial
Koch G, Bergmann-Arnadottir I, Bjarnason S, Finnbo-
gason S, Höskuldsson O, Karlsson R 72
80
Acknowledgements
No. 2
Basic Sciences
Influence of Fluoride on in vitro Remineralization of Artificial Subsurface Lesions Determined
with a Sandwich Technique Lammers PC, Borggreven JMPM, Driessens FCM .... 81
A Possible Mechanism of Acquired Acid Resistance of Human
Dental Enamel by Laser Irradiation (With 1 color plate)
Oho T, Morioka T  86
Effect of a Strontium Complex on Fluoride Uptake by Artifi-
cial Caries Lesions and Sound Enamel in vitro
Mellberg JR, Fletcher R  93
Fluoride and Mineral Redeposition in Outermost Layers of Bovine Enamel during Surface
Effect of Monofluorophosphate on Calcium Phosphate For-
mation in Supersaturated Solutions
Vintiner GM, Pearce EIF  101
Effect of pH on Acid Production from Sorbitol in Washed Cell
Suspensions of Oral Bacteria
Kalfas S, Maki Y, Birkhed D, Edwardsson S  107
IV
Contents
Antiplaque Activity of Some Antimicrobial Agents Using a
Simple in vitro Method
Murata Y, Miyamoto E, Ueda M 113
Animal Studies
Distribution of Fluoride across Cementum, Dentine and Alveolar Bone in Rats Kato K, Nakagaki
H, Robinson C, Weatherell JA .... 117
Acute Oral Toxicity of Sodium Fluoride and Monofluorophospho-phate Separately or in
Combination in Rats Whitford GM, Birdsong-Whitford NL, Finidori C .... 121
Reversal of Fissure Caries in the Albino Rat by Stimulating
Salivary Flow with Pilocarpine (Short Communication)
Leach SA, Connell R 127
Clinical Science
Effect of an Antimicrobial-Containing Varnish on Root Demi-
neralisation in situ
Huizinga ED, Ruben J, Arends J  130
Mutans Streptococci in Interproximal Plaque from Amalgam and Glass Ionomer Restorations
Svanberg M, Krasse B, Örnerfeldt H-O  133
Dental Caries Changes in the Scottish Isle of Lewis
Hargreaves JA, Cleaton-Jones PE  137
Action of Fluoride on Initiation of Early Root Surface Caries in vivo (Short Communication)
Øgaard B, Arends J, Rølla G  142
In vitro Screening of Chinese Medicinal Toothpastes: Their Effects on Growth and Plaque Formation of Mutans Streptococci
Wu-Yuan CD, Green L, Birch WX  198
Relationships between the Biochemical Composition of Both Free Smooth Surface and Approximal Plaque and Salivary Composition and a 24-Hour Retrospective Dietary History of Sugar Intake in Adolescents
Wilson RF, Ashley FP  203
Estimation of Fluoride Absorption from Swallowed Fluoride Toothpastes
Drummond BK, Curzon MEJ, Strong M  211
Clinical Science
Concentration of Antimicrobial Proteins in Human Saliva. The Effect of Long-Term Usage of a Zinc-Containing Dentifrice on the Protein Composition of Stimulated Saliva from 198 Children
Page DJ, Gilbert RJ, Bowen WH, Stephen KW  216
Cariological Studies of Individuals with Long-Term Sorbitol Consumption (Short Communication)
Birkhed D, Svensäter G, Edwardsson S  220
Announcements
Sugarless – The Way Forward  224
No. 4
No. 3
Basic Sciences
Human Root Caries: Histopathology of Advanced Lesions
Schüpbach P, Guggenheim B, Lutz F 145
Mineral Density and Mineral Loss after Demineralization at Various Locations in Human Root Dentine. A Longitudinal Microradiographic Study
Zuidgeest TGM, Herkströter FM, Arends J  159
Effect of X-Ray Irradiation on the Permeability of Bovine Dental Enamel
Jansma J, Borggreven JPM, Driessens FCM, ‘s-Gravenmade EJ  164
Electrophoretic Demonstration of Glycoproteins, Lipoproteins, and Phosphoproteins in Human and Bovine Enamel
Kirkeby S, Moe D, Bøg-Hansen TC, Sailing E 169

Effect of Fluoride Concentration on Remineralization of Carious Enamel: an in vitro pH-Cycling Study
Damato FA, Strang R, Stephen KW 174

Comparison of the Iodide Permeability Test, the Surface Microhardness Test, and Mineral Dissolution of Bovine Enamel following Acid Challenge
Zero DT, Rahbek I, Fu J, Proskin HM, Featherstone JDB 181

Interactions of Micromolar Concentrations of Fluoride with Streptococcus rattus FA-1
Psarros N, Feige U, Duschner H 189

Congratulations to Dr. Held 225

Basic Science
Effect of Surface Zone Deproteinisation on the Access of Mineral Ions into Subsurface Carious Lesions of Human Enamel
Robinson C, Hallsworth AS, Shore RC, Kirkham J . . . . 226

Effect on a Cariogenic Challenge of Saliva/Plaque Exchange via a Thin Salivary Film Studied by Mathematical Modelling
DibdinGH 231

Salivary Fluoride Concentrations in Children with Glass Ionomer Cemented Orthodontic Appliances
Hallgren A, Oliveby A, Twetman S 239

Effect of Chlorhexidine Gel Treatment Supplemented with Chlorhexidine Varnish and Resin on Mutans Streptococci and Actinomycoses on Root Surfaces
Fure S, Emilson CG 242

Accumulation of Enamel Constituents in Streptococcus mutans Plaque during Intraoral Demineralization
Kashket S, Yaskell T 248

Relationship between the Surface-Active Properties and in vitro Antiplaque Effect of Polyalkylpolymethylenediamines (Short Communication)
Murata Y, Miyamoto E, Kawashima S 254

Combined Effects of Xylitol and Fluoride on Enamel Demineralization in vitro (Short Communication)
Arends J, Smits M, Ruben JL, Christoffersen J 256

Animal Studies
Enamel and Dentin Fluoride Levels and Fluorosis following Single Fluoride Doses: A Nuclear Microprobe Study
Angmar-Månsson B, Lindh U, Whitford GM 258

Clinical Science
Remineralization of Human Enamel in situ after 3 Months: The Effect of not Brushing versus the Effect of an F Dentist
frice and an F-Free Dentifrice
Dijkman A, Huizinga E, Ruben J, Arends J  263
Comparison of the Initial Streptococcal Microflora on Dental
Enamel in Caries-Active and in Caries-Inactive Indi-
viduals
Nyvad B, Kilian M  267
Effect of Extraction of Partly Erupted Third Molars on Salivary Microbial Counts in Conscripts
Rajasuo A, Meurman JH, Metteri J, Ankkuriniemi O . . 273
Caries Decline from 1976 to 1986 among 15-Year-Olds in Hel-
sinki
Vehkalahti M, Helminen S, Rytömaa I  279
Enamel Defects in 8-Year-Old Children in Fluoridated and
Non-Fluoridated Parts of Cheshire
Milsom K, Mitropoulos CM  286
Prevalence of Dental Caries and Dental Fluorosis in Students, 11-17 Years of Age, in
Fluoridated and Non-Fluoridated Cities in Quebec
Ismail AI, Brodeur J-M, Kavanagh M, Boisclair G, Tessier
C, Picotte L  290
Relationship between Salivary Levels of Mutans Streptococci and Restoration Longevity (Short
Communication) Bentley CD, Broderius CA, Drake CW, Crawford JJ . . . 298
Effect of Fruit Juice, with or without 1% Added Whey Mineral,
on Bovine Dental Enamel in Intraoral Experiments (Short
Communication)
Thomson ME  334
Animal Studies
Development and Establishment of Fluoride-Resistant Strains
of Streptococcus mutans in Rats
van Loveren C, Lammens AJ, ten Cate JM  337
Cariogenic Potential of Foods. I. Caries in the Rat Model
Mundorff SA, Featherstone JDB, Bibby BG, Curzon MEJ,
Eisenberg AD, Espeland MA 344
Fluoride Administration during Enamel Formation and Its Effect on Dental Caries in Rats (Short
Clinical Science
Variability in the Ingestion of Toothpaste by Preschool Children
Naccache H, Simard PL, Trahan L, Demers M, Lapointe
C, Brodeur J-M  359
Radiographic versus Clinical Diagnosis of Approximal Carious Lesions de Vries HCB, Ruiken
HMHM, König KG, van’t Hof MA 364
Caries Control in Overdenture Patients: 18-Month Evaluation
on Fluoride and Chlorhexidine Therapies
Keltjens HMAM, Schaeken MJM, van der Hoeven JS,
HendriksJCM 371
Influence of Calcium Lactate Rinses on Calculus Formation in
Adults (Short Communication)
Schaeken MJM, van der Hoeven JS  376
Announcements
38th Annual ORCA Congress 1991 379
ORCA Summer School 379
ORCA-Rolex Prize 380
No. 5
Basic Science
Fluoride Penetration into Dentine Abutments in vitro
Figures KH, Ellis B, Lamb DJ 301
Interactions of Selenium and Fluoride on Growth, Glycolysis and Survival of Streptococcus mutans GS-5 Eisenberg AD, Curzon MEJ, Izaguirre-Fernández EJ . . . 306
Correlations between Numbers of Microflora in Plaque and Saliva
Mundorff SA, Eisenberg AD, Leverett DH, Espeland MA, Proskin HM 312
Bacteriological Examination of Fissure Plaques from Seriously Mentally Retarded Adults
Ozeki M, Zinda K, Matsumoto S, Ohkouchi K, Kobayashi Y, Moriyama T 318
Depth of Occlusal Caries Assessed Clinically, by Conventional Film Radiographs, and by Digitized, Processed Radiographs
Wenzel A, Fejerskov O, Kidd E, Joyston-Bechal S, Groeneveld A 327
No. 6
Symposium Report
Caries Status in Europe and Predictions of Future Trends
Marthaler TM 381
Abstracts
Abstracts of Papers Presented at the 37th ORCA Congress Ljubljana, Yugoslavia, July 11-14, 1990
One Hundred Years Post Miller 397
Dental Calculus 397
Diagnostics 399
Food 400
Demineralization/Remineralization 402
Fluorides 405
Microbiology 408
VI
Contents
Caries Prevention 411
Tooth Root 415
Tooth Enamel 417
Fluoride/Fluorosis 419
Caries Prevalence 422
Saliva/Pellicle/Plaque 427
Basic Sciences
Remineralization of Human Dentine in vitro