

Table 1-Part Dent(Human)

Authors	Number of Samples	Time of Application of Dentifrice	Criteria for Detection of Caries	Findings
Papas et al.(6)	50 subjects, 26 conv., 27 enamel	Twice daily for 60 seconds	Assessed with Pitts diagnostic criteria	Enamelon superior in preventing root, but not coronal caries
Grant et al. (7)	20/group - 60 in total	1x1 per day for 5 days per week for 6 weeks	Scored by method of Keyes	Enamelon had superior caries inhibiting properties compared to Crest regular on sulcal + approx. surfaces
Thompson et al. (8)	10/group - 70 in total	1x1 per day for 5 days per week for approx. 2 weeks	Scored by method of Keyes	Enamelon produced lower total caries score than all other groups
Mundorff-Shrestha et al. (9)	18/group - 54 in total	30 seconds per side x2 per day for 7 days per week for 34 days	Method of Keyes + uv light	Enamelon had superior anti-caries activity compared to NaF toothpaste
Hicks, Flaitz (10)	12 caries-free molars	3 mins at 8 hr intervals for 14 days	Polarized light microscopy	Addition of Calcium and Phosphate to F- containing toothpaste - trend toward decrease in lesion depth
Kardos et al (11)	140 ground and polished 4mm bovine enamel cores	6 cyclic treatments of 1 min. exposure to test product	Microhardness measured with Beuhler microhardness tester	Enamelon more effective in preventing demineralization than F- dentifrice
Schemehorn, Winston (12)	24 specimens of 3mm disks of enamel	Immersed in slurry of test material for 30 mins.	Enamel solubility reduction (ESR)	Enamelon gave greater ESR than F- containing or non-F dentifrice
Wolinsky et al (13)	12 teeth	5 min exposure to a 1:2 slurry in saliva of test product	Electrical resistance measurement	Post tx electrical resistance was greater for Enamelon than F- toothpaste or saliva
Munoz et al (14)	70 sound teeth	Treated 20 consecutive times for five min each	Surface hardness with Knoop hardness indenter, SEM exam	Enamelon was effective in hardening both intact and acid soft drink softened enamel. More effective than conventional F- toothpaste
Schemehorn et al (15)	40 enamel specimens	specimens treated with toothpaste or mouthwash 5 mins-15 cycles	Microhardness, x-ray microradiography	Calcium and phosphate supplementation in toothpaste or mouthrinse can improve remineralization and fluoride uptake

Table2-Lased Enamel

Authors	Number of Samples	Time of Laser Appl.	Method of Measuring Demineralization	Findings
Goodman & Kaufman (16)	6 teeth - six sections	5 minutes	Ca & P release	No difference
Nelson et al (17)	106 teeth - two windows	100-200ns pulses: 1, 3 and 10 minutes	Microhardness and chemical analysis	Lased enamel less soluble
Hicks et al (18)	80	10 seconds	Polarized light - lesion depth	Lesions less deep in lased enamel
Tagomori & Iwase (19)	120	10 pulses per second; 13, 30 and 45 minutes	Ca ⁺⁺ measured by AA	Lased enamel less soluble except for 15 minute
Featherstone et al (20)	160 teeth	100 ms - 25 pulses	Cross Sectional microhardness	Lased enamel less soluble
Kantorowitz et al (21)	120 teeth	100 ms	Cross Sectional microhardness	Lased enamel less soluble
Kimura et al (22)	36 teeth - 72 halves - 288 windows	5-10 nsecs.	Scattering light microscope	No difference in lesion depths

Table3-Fluoride-Clin Trials

Authors	Numbers of Samples	Caries Challenge	Criteria for Detection of Caries	Findings
Wenderoth et al (23)	20 patients; 225 metal brackets on ant. teeth	Brackets placed and left in oral environment	Visual Examination	No significant difference between experimental and control groups
Kreulen et al (24)	40 patients (17 M:23 F)	Cariou dentin left in tooth Period of clinical function	Color & consistency of dentin; Microbiology measure	Reduced in # of bacteria over 6 months Dentin harder & darker - no difference between groups
Twetman et al (25)	22 homologous pairs of pre-molars from 20 teenagers	Brackets placed and left in oral environment for 6-13 wks	Visual examination; stained with erythrocin	Zone of intact enamel was sig. wider in brackets cemented with gic
Banks et al (26)	366 exp. and 371 control teeth in 50 patients	Bracket placed and left in oral environment ~16.3mths	Visual examination one examiner	Addition of fluoride to adhesive did not reduce incidence of enamel decalcification
Ogaard et al (27)	6 patients with 10 pairs of premolars to be extracted	Teeth subjected to clinical function; 4 wks	Microradiography	Fluoride adhesive reduced lesion depth by 48% when compared with contralateral side
Rzek-Lega et al (28)	5 patients with 9 pairs of pre-molars to be extracted	Teeth subjected to clinical function; 4 wks	Visual examination Microradiography	Fluoride release from gics had cariostatic properties
Dijkman, Arends (29)	--	--	Microradiography	Fluoride release may play a role
Donly et al (30)	21	Artificial lesions - lactate buffer	Visual polarized light	Fluoride release inhibits "caries"
Benelli et al (31)	10:40 specimens	Extra oral - 20% sucrose - 40 mins	Microhardness	Fluoride release reduced caries
De Los Santos et al (32)	6:84 specimens	Extra oral - 10% sucrose - 45 mins	Microradiography	Fluoride release increased remineralization

Table4-BMP-Animal Studies

Authors	Number of Samples	Length of Exp.	Criteria for Detection of Dentin Formation	Findings
Nakashima (33)	11 dogs - 89 teeth	3 months	Histological	Greater amount in exp. v. control Both tubular & osteodentin
Nakashima (34)	5 dogs - 50 teeth	8 weeks	Histological	Greater amount in exp. v. control Both tubular & osteodentin
Leinja et al (35)	4 dogs - not specified	4 weeks	Histological	Only osteodentin in +ve controls Both tubular & osteodentin in exp.
Rutherford et al (36)	4 monkeys - 30 teeth	6 weeks	Histological - morphometric	All teeth showed reparative dentin exp. Significantly > +ve controls at greater concentration, exp. always > -ve controls.
Rutherford et al (37)	4 monkeys - 64 teeth	6 months	Histological - morphometric	No reparative dentin in controls 6 mths 95% mineral - tubular & atubular in exp.
Rutherford et al (38)	5 monkeys - 90 teeth	2 months	Histological - morphometric	More reparative dentin in exp. v. -ve & +ve controls