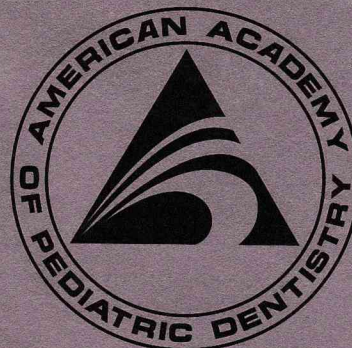


PEDIATRIC DENTISTRY

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A pilot study of morphological changes in coated Nd-YAG laser enamel. Corpas-Pastor L•, Elias-Boneta A, Villalba-Moreno J. School of Dentistry, University of Puerto Rico and University of Granada, Spain.

The objective of this pilot study was to 1) evaluate the enamel surface alteration microscopic patterns after laser and acid etching technique with scanning electronic microscope, and 2) suggest the Nd-YAG laser power output necessary for effective enamel-bracket bonding procedure, by using different laser energy output as a quantitative variable and two dye primers (black ink and black pencil) as qualitative variables. Four caries-free human premolars were extracted and stored in saline water. Teeth were debrided and cleaned and then sectioned, providing two samples each and mounted in acrylic to facilitate their handling. Enamel etching was performed using a Nd-YAG laser with pulsed energy type and variable power delivered by optic fiber. Every specimen underwent a different etching procedure. A scanning electron microscope was used at 10 KV and 30°. The results show that double laser exposition at 15 pps/.75 watts caused a fused enamel with melting and many pits of variable diameter, giving a drilled aspect to enamel. However, microfractures appear in all the dosages tested. *Hence, more research should be made before using double-exposition at 15 pps/.75 watts with black ink as primer to etch enamel with Nd-YAG laser.*

Oral ulcers in infants. Das S•, Das AK, Rackauskas, MA, Alkhayal Z. University of Illinois, Chicago.

Oral ulceration in infants is not very common. Most of the lesions are due to candidiasis. With a view to estimate the incidence of ulceration and identify the lesions occurring in infants younger than 1 year of age, we conducted a survey of young patients attending the dental college clinic during one year. Of 52 infants, two had oral ulcerations. Both complained of pain but the lesions were different in etiology and appearance. One was diagnosed as herpetic and the other one as Riga-Fede disease due to friction from early eruption of lower incisors. *In conclusion, oral ulcers are rare in young children. Two uncommon lesions were found in this survey.*

Caries prevalence and treatment among Native American Head Start children. Douglass JM•, Champany R, Tetrev S, Eberling S, O'Sullivan DM. University of Connecticut Health Center, Farmington, CT, and NAIHS, Window Rock, AZ.

Several studies of Native American children have shown a high prevalence of nursing caries, but little has been reported about the dental health and needs of this population. A large, previously unreported sample of data on Native American children provided an opportunity to analyze the caries experience and dental treatment received by these children. Dental examinations were conducted on 2003 3- to 5-year-old Head Start children in

New Mexico and Arizona over a period of approximately 18 months. 87% of the children were caries positive, with an average dmfs of 17.4. However, the children received a high level of care, with 73% of the dmfs comprised by filled and missing surfaces. Of the caries-positive children, 64% had nursing caries. Children with nursing caries had an average dmfs of 22.5 compared with 8.2 in the remaining caries-positive children. *Although the high prevalence of nursing caries in these children contributes to some of the highest levels of caries among preschool children ever reported, the Native American children in this sample are receiving an unusually high level of care.*

Role of the acid-etch technique in remineralization of caries-like lesions of enamel: A polarized light and scanning electron microscopic study. Flaitz CM•, Hicks MJ, and Berg JH. Dental Branch, University of Texas Health Science Center at Houston, Houston, TX.

The aim of this in vitro study was to determine the effect of acid-etching on remineralization of caries-like lesions with calcifying fluids (CF), containing either 1mM or 3mM calcium. Using an acidified gel, lesions were created in two windows of sound enamel on both buccal and lingual surfaces of human molar teeth. Central longitudinal sections were taken from each tooth to serve as control lesions (CL). Each tooth then was sectioned into quarters and each quarter assigned to one of four groups: 1) 1 mM Ca CF Remineralized (RC1); 2) 1 mM Ca CF Remineralized Etch (RE1); 3) 3 mM Ca CF Remineralized (RC3); 4) 3 mM Ca CF Remineralized Etch (RE3). Lesions in the etch groups were exposed to 30% H₃PO₄ for 30 sec prior to CF. Etch and control groups were treated with 1 mM or 3 mM Ca CFs (prepared from HAP [Ca/P ratio = 1.63], pH 7.0, 0.05 mM FL) for 10 x 60 sec periods, interspersed with deionized water rinses. Following CF, longitudinal sections were prepared and imbibed in water for polarized light study. Mean lesion depths were determined using a digitized tablet. Surface topography was examined with SEM. Following 1 mM Ca CF, mean lesion depths were: 179 µm for CL, 157 µm for RC1 and 118 µm for RE1. Following 3 mM Ca CF, mean lesion depths were: 188 µm for CL, 171 µm for RC3 and 143 µm for RE3. Topographic features of the remineralized etched lesions consisted of adherent surface coatings with finely globular patterns in the 1 mM Ca CF group and densely adherent surface coatings which masked the effects of etching in the 3 mM Ca CF group. *Acid-etching of caries-like lesions prior to treatment with calcifying fluids appears to facilitate remineralization, resulting in adherent surface coatings which may provide a source for prolonged remineralization and may increase resistance to lesion progression.*

Dental and skeletal malocclusion in juvenile rheumatoid arthritis. Garza R•, Schneiderman E, Seale NS. Baylor College of Dentistry.

A cephalometric evaluation and dental clinical obser-