Abstracts from other journals

Editor: Bernadette Drummond

Abstracts are presented as originally published or with only minor modifications

Retention of glassionomer sealant in primary teeth in young children. Poulsen P. *European Journal of Paediatric Dentistry* 2003; **4**: 96–98.

The purpose of the study was to determine the retention of glassionomer sealants in primary teeth of preschool children. Fissure sealants (Fuji II LC) were placed on primary molars, without conditioner, by two experienced dentists under good clinical conditions in well equipped clinics and with the assistance of a chair side dental assistant. After two years, sealants were scored as 'fully retained', 'partly retained', or 'completely lost'. There were 65 children included, with 29 having primary molars only. Mean age at the time of sealing was slightly less than 41/2 years. Mean follow-up time was two years. About 75% of the sealants placed in second primary molars were fully or partly retained after 12 months, compared with less that 50% of the sealants placed in first primary molars. New carious lesions were too few to allow an assessment of whether the sealants were effective in preventing caries. Retention rates for glass ionomer fissure sealants were satisfactory. However, high quality randomised clinical trials to estimate the caries preventive effect are still needed.

A comparative study of plaque mutans streptococci levels in children receiving glass ionomer cement and amalgam restorations. Ertugrul F, Eltem R, Eronat C. Journal of Dentistry for Children 2003; 70: 10–14.

The restorative materials amalgam (Standalloy F) and glass ionomer cements (Chelon Silver) were comparatively investigated to determine numbers of mutans streptococci. H Saliva placement of restorations. Total bacteria and mutans streptococci counts were found to be statistically significantly reduced in both groups when compared with the pre-restoration counts in the saliva samples (P < 0.001).

Microbiological analysis of the dental plaque showed that the number of mutans streptococci in the glass ionomer cement group was significantly lower than in the amalgam restoration group (P < 0.001). This study showed that silver glass ionomer cements inhibited the growth of mutans streptococci.

Fluoride-releasing resin bonding of amalgam restorations in primary teeth: in vitro secondary caries effect. Hicks J, Milano M, Seybold S, Garcia-Godoy F, Flaitz C. *American Journal of Dentistry* 2002; **15**: 361–364.

The aim was to evaluate the effects of a fluoride-releasing resin designed for amalgam bonding on secondary caries formation in primary teeth restored with amalgams. Primary teeth with caries-free buccal and lingual surfaces were selected and underwent a fluoride-free prophylaxis. Cavity preparations were performed in the buccal and lingual smooth surfaces of 20 primary teeth. A fluoridereleasing dimethacrylate resin bonding agent (Alloybond) was placed prior to amalgam restoration (Dispersalloy) of the cavity preparations in 10 teeth. Amalgam restorations placed in 10 teeth following copal cavity varnish (Copalite) served as controls. The teeth were thermocycled in synthetic saliva and then coated with an acid-resistant coating, leaving a 1mm rim of sound enamel surrounding the restorations. Artificial secondary caries were created and longitudinal sections (five per tooth) were prepared for polarized light evaluation. Mean depths for the primary surface lesions were determined using a computer-interfaced digitized tablet. Cavity wall lesion frequencies were also evaluated. Primary surface lesion depth was reduced significantly (P < 0.05) with Alloybondamalgams when compared with Copalite-amalgams. Cavity wall lesion frequency was decreased (P < 0.05) significantly with Alloybond-amalgams (57%) compared with Copalite-amalgams (89%). The beneficial effect of the fluoride-releasing amalgam bonding agent was not limited to the cavosurface enamel. The caries susceptibility of enamel surfaces adjacent to amalgams with the fluoridereleasing bonding agent was decreased considerably. The incorporation of the amalgam-bonding resin with fluoridereleasing capabilities provided greater protection against a constant cariogenic attack over that for a conventional amalgam restoration.

Parental evaluation of quality of life measures following pediatric dental treatment using general anesthesia. White H, Lee JY, Vann WF Jr. *Anesthesia Progress* 2003; **50**: 105–110.

The purpose of this study was to examine (a) parental satisfaction with the dental care their child received under general anesthesia, and (b) perception of the impact of this care on physical and social quality of life. The sample included 45 children (median age 50 months, 26 boys and 19 girls). Data were collected using a 1-page survey instrument completed by the parent at the first follow-up appointment. Dichotomous dependent variables were developed to measure parental satisfaction, dental outcome, and social impact of treatment. There was an overwhelmingly positive impression with dental outcomes (pain relief and improved masticatory efficiency). Parental perceptions in the social dimension were also positive. Parents reported more smiling, improved school performance, and increased social interaction. Relative to overall health, the majority of parents reported an improvement. Logit regression analysis revealed that absence of pain (P < 0.05) and increased social interaction (P < 0.01) had a significant impact on parents' perception of overall health. Our findings indicate that dental care under general anesthesia for preschool children has a high degree of acceptance by parents and is perceived to have a positive social impact on their child.

Updated comparison of the caries susceptibility of various morphological types of permanent teeth. Macek MD, Beltran-Aguilar ED, Lockwood SA, Malvitz DM. *Journal of Public Health Dentistry* 2003; **63**: 174–182.

In 1941, Klein and Palmer published a landmark study that ranked the relative susceptibility to dental caries of various morphological tooth types. Specifically, Klein and Palmer used a four-step approach, which included derivation of: (1) an eruption schedule; (2) posteruptive tooth age; (3) cumulative number of decayed, missing, and filled teeth and cumulative posteruptive tooth age; and (4) relative susceptibility values. Their study was conducted when dental caries prevalence and severity were generally high in the United States, prior to the introduction of preventive measures such as fluoride and dental sealants. This investigation used more recent data to assess whether declines in dental caries prevalence over time have been accompanied by changes in the relative susceptibility of permanent tooth types. The data source for this investigation was the oral examination component of the Third National Health and Nutrition Examination Survey. This investigation used analytical methods to derive the relative susceptibility values that were identical with those used during the Klein and Palmer study. Analysis was limited to children aged 4 through 20 years. The investigation found six categories of susceptibility, with molars being more susceptible than incisors, canines, or premolars. In general, susceptibility values declined since the Klein and Palmer study, providing additional evidence for a caries decline in the United States. First and second molar susceptibility values from the NHANES III data, however, intersected with those of Klein and Palmer, suggesting that factors specific to the molars, such as the selective use of fissure sealants on these teeth, might be playing an additional role. Future research should explore factors that might explain the changes in relative susceptibility values over time.

Copyright of International Journal of Paediatric Dentistry is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.