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The adoption of nickel-titanium rotary instrumentation increases root-filling quality among a group of Swedish general dental practitioners

Authors: Göransson H et al.

Summary: This investigation was carried out during mandatory continuing education for general dentists in Sweden. Radiographs of two root canal-treated teeth (mostly molars) were randomly sampled from 249 dentists before and after lectures and hands-on training. The adoption rate of the rotary instruments increased from 35% to 75%, and good quality root fillings increased from 27% to 49%.

Comment: The dentists underwent 4 hours of training supervised by endodontists and worked on extracted molars using the FKG RaCe system. They were provided with handouts and a picture manual showing file preparation sequences, and information on where to buy instruments and equipment. The dentists who considered canal preparation and filing as ‘easy’ produced more good quality fillings than the others. However, the adopters still produced some root fillings of very poor quality. Those dentists reluctant to accept the new technology showed no significant change in the quality of their work after the training.


Denture adhesives improve mastication in denture wearers

Authors: Gonçalves TMSV et al.

Summary: The retention and stability of complete dentures may be improved using adhesives. This study investigated the ridge status of 30 edentulous patients and the effectiveness of denture adhesives. Chewing tests were carried out with adhesive cream or strips on the dentures. A kinesiographic device investigated the chewing cycle, and the patients used a visual analogue scale (VAS) to record their masticatory ability. Adhesives helped patients with normal and resorbed ridges, and the condition of the ridge alone did not alter masticatory function in any of the measured parameters.


Free available chlorine concentration in sodium hypochlorite solutions obtained from dental practices and intended for endodontic irrigation: Are the expectations true?

Authors: van der Waal S et al.

Summary: One of the disadvantages of sodium hypochlorite as an endodontic irrigant is that its shelf life is limited. These workers collected 84 samples of solutions from dental practices in the Netherlands to determine whether they contained the expected levels of free chlorine. Iodometric titration was used, and pH measured. The solutions had been purchased from supermarkets and drugstores (36%), dental suppliers (48%) and pharmacies (16%). Of the samples, 15% contained less than 1% chlorine; the most reliable materials were sourced from the dental supply companies.


Ibuprofen and/or paracetamol (acetaminophen) for pain relief after surgical removal of lower wisdom teeth, a Cochrane systematic review

Authors: Bailey E et al.

Summary: This paper reviews the use of two common analgesics following the extraction of mandibular third molars. Seven studies which included 2,241 participants were involved, and pain relief at 6 hours investigated. Ibuprofen 400 mg was found to be superior to 1,000 mg paracetamol, and the combination drug Nuromol showed encouraging results based on two trials.

Survival of anterior cantilevered all-ceramic resin-bonded fixed dental prostheses made from zirconia ceramic

Authors: Sasse M, Kern M
Summary: Forty-two resin-bonded bridges with a cantilever single-retainer design were made from zirconia ceramic to replace upper and lower incisors. They were bonded using autocuring Panavia resin after air-abrasion of the ceramic surface. Two bridges debonded at 11 months during the mean observation time of 61 months, one due to trauma. Both were reattached and all bridges were in function after 6 years.

Comment: Zirconia provides high fracture strength and high fracture toughness. Tooth preparation is similar to conventional resin bonded bridges, and the teeth are then air polished and etched. A survival rate of 100% at what is regarded as mid-term is excellent, suggesting this is an alternative method of replacing a missing anterior tooth. It also proves that the bond strength to the ceramic can be reliable. The next studies will see if the concept works to replace canines and premolars.

Reference: J Dent 2014;42(6):660-3

Abstract

Root proximity and stability of orthodontic anchor screws

Author: Shigeeda T
Summary: Small titanium screws may be used for orthodontic anchorage. The risk factors for screw failure include proximity to nearby roots, as the devices are frequently placed into the small gaps between adjacent teeth. In this study, 165 screws (diameter 1.6 mm; length 8 mm) were placed in 58 patients between second premolars and first molars. Holes were cut with a 1.0 mm diameter bur in the maxilla and with a 1.3 mm bur in the mandible. Screw stability was then assessed using a Periotest device and cone-beam computed tomography (CBCT) images were taken. Screws were considered successful if they withstood orthodontic forces for at least 6 months without mobility. The rate of screw contact with a root seen on the CBCT images was 20%, with some screws contacting at two or more points. This is lower than in some previous studies, and larger screws are available. There are limited animal studies of root resorption in these circumstances or data on how roots heal after treatment. A study in another in mini pigs found external root resorption even without direct contact.

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Reference: Quintessence Int 2014;45(8):691-701

Abstract

Regression of oral lichenoid lesions after replacement of dental restorations

Authors: Mårell L et al.
Summary: This investigation looked at regression of lichenoid contact reactions (LCR) and oral lichen planus (LP) after changes of materials in adjacent restorations. Forty-four patients were followed for an average of 6 years. Regression was higher in patients with LCR than LP. No patients with LP improved after exchange of materials, so a correct diagnosis is required before removing satisfactory restorations.

Comment: The most frequently replaced material was amalgam, and the commonest allergens found were mercury, gold and nickel. There was no support for replacing restorative materials in LP patients. Despite recommendations, over half of the patients in the LCR group replaced all their suspect fillings with others of a different material.


Abstract

Enamel scarring by debonding burs: an SEM and profilometric study

Authors: Mahdavie NN et al.
Summary: Debonding of orthodontic brackets aims to remove the attachment and all adhesive material and not damage the tooth surface. Common instruments used are 12-, 20- and 30-blade carbide burs and white stones. This project used 80 extracted teeth, and following the use of bracket pliers and the above instruments the enamel surfaces were investigated with scanning electron microscopy (SEM) and profilometry. Remaining adhesive and enamel damage was scored. All samples had some adhesive on them and all had some scarring of the enamel. There was no difference between the 20- and 30-blade burs.

Comment: Most studies show that some enamel damage is inevitable. Investigations of this type usually use just the SEM, while the profilometer measures roughness numerically so information is readily examined statistically. The white stone, which might be chosen on the grounds of economy, resulted in a complete loss of enamel topography and extensive enamel grooves.

Reference: J Clin Orthodont 2014;48(1):14-21

Abstract

Efficacy of honey in comparison to topical corticosteroid for treatment of recurrent minor aphthous ulceration: a randomized, blind, controlled, parallel, double-center clinical trial

Authors: El-Haddad SA et al.
Summary: Ninety-four subjects with 180 minor recurrent aphthous ulcerations were recruited. Treatment started no more than 48 hours after development of the ulcers. Lesions were wiped four times a day for 5 days with a wet sterile cotton pellet with honey, triamcinolone ointment (Kenalog) or Orabase protective paste. The honey significantly reduced ulcer size, helped alleviate pain, improved healing and increased the number of ulcer-free days compared to the other treatments.

Comment: The “take-home message” here is almost as long as the title of the article! There is a vast and growing literature on honey in wound healing, particularly for burns, and this is well referenced in this paper. However, all we are told here is that a commercial honey was used. I’m sure we would like to know how New Zealand’s manuka honey would perform in this role. Is there a potential risk of caries in patients with chronic ulceration who might over-use this remedy?

Reference: Quintessence Int 2014;45(8):691-701

Abstract