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TRAUMA; ORTHODONTICS

Prevalence of traumatic injuries to the permanent incisors in candidates for orthodontic treatment

Bauss O, Röhling J *et al.* *Dent Traumatol* 2004; **20**: 61-66

It might be better for patients with increased overjets to receive orthodontic treatment at an earlier age to avoid tooth injury.

Studies have indicated that increased overjet and reduced lip coverage may contribute to injuries to upper incisor teeth. Over a 5 year period, records for 1523 consecutive patients attending at a German orthodontic practice were examined in respect of trauma to incisors. In 156 cases, data was inadequate, and 1367 (731 male; mean age 15 yrs; 77% aged 11-20) were included. Trauma had occurred before orthodontic treatment in 10%, and in 0.6%, there had been multiple events; 13 untreated traumas were also identified.

In 46% of patients, 2 or more teeth were injured. Half of the patients were injured in falls, and 4/5 were injured at home, in the street or at school. About 1/3 of injuries were enamel fracture, and the rest were more serious. Patients with overjet up to 3 mm were injured in 7% of cases; with increased overjet in 11%; and with increased overjet and inadequate lip coverage in 14%. The differences between the first group and the other 2 groups were significant. Most trauma was in the 11-15 yr age group.

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ONCOLOGY; MAXILLOFACIAL SURGERY

Influence of bone invasion and extent of mandibular resection on local control of cancers of the oral cavity and oropharynx

O'Brien CJ, Adams JR *et al.* *Int J Oral Maxillofac Surg* 2003; **32**: 492-497

Bone invasion alone had little influence on outcome, but involvement of soft tissue margins predicted local recurrence and shorter survival.

The degree of bone invasion has a significant effect on decisions regarding the treatment of mandibular tumours. Treatment complexity and morbidity are increased with larger surgical resections. In this study, data from a Sydney hospital over a 13 yr period were reviewed from 94 patients after marginal resections (a relatively conservative procedure), and 33 after segmental resections.

The tumour site was the floor of the mouth in 56 cases and the oropharynx in 17. Bone invasion was present in 17 marginally, and 21 segmentally, resected tumours. After 2 yrs, disease-free survival was 73% and 76% respectively for subjects with and without bone invasion. However, the 5 yr local control rates for clear and positive margins were significantly different at 89% and 64% respectively. There was no significant effect of conservative surgery on survival.

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PREVENTIVE DENTISTRY

Oral fluoride retention in saliva following toothbrushing with child and adult dentifrices with and without water rinsing

Issa AI, Toumba KJ *Caries Res* 2004; **38**: 15-19

A higher salivary fluoride level than before brushing was detectable up to 2 hours afterwards.

To enhance the effect of fluorides, patients have been advised not to rinse after brushing and to expectorate gently. This study was to compare the salivary F⁻ levels of 10 healthy subjects (mean DMFS 9.6; mean age 31 yrs) before and after brushing with dentifrice in 8 F⁻ formulations and a non-F⁻ control. The formulations were: sodium fluoride 500, 1000 and 1450 ppm; sodium monofluorophosphate 525, 1000 and 1450 ppm; amine fluoride 250 and 1400 ppm. All formulations were tested with and without water rinsing in all subjects.

The F⁻ concentrations were high after 1 min, quickly reducing in an exponential fashion. No statistical comparisons were offered, but AmF and NaF dentifrices gave higher than baseline scores 2 hours later. When water rinsing was used, lower F⁻ concentrations were found. AmF at 1400 ppm gave the highest recorded levels both with and without rinsing.

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ENDODONTICS

Repair of root perforations using mineral trioxide aggregate: a long-term study

Main C, Mirzayan N *et al.* *J Endodon* 2004; **30**: 80-83

Satisfactory repair was present 1 yr later for all 16 cases evaluated.

A significant problem with root perforation is the persistent inflammatory reaction in the adjacent tissues, and root perforation may account for 10% of all endodontic failures. Studies *in vitro* suggest that mineral trioxide aggregate (MTA) reduces bacterial leakage more than other materials. The present study identified 16 patients treated with MTA for perforation and followed up for a minimum of 1 yr in a Californian endodontic residency programme.

Radiographs from before treatment, immediately after MTA repair, and 1 yr or more later were examined in a double blind manner by 3 examiners for any radiolucency more than double the width of the periodontal ligament. Subjects had also been examined for any periodontal defect extending to the perforation, and none was found. A radiolucency was found at the time of repair in 7 cases which were then followed for 12-45 months, when all had healed. In 9 cases without radiolucency at repair, no lesion developed over a subsequent period of 12-43 months.

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