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## ENDODONTICS

### A demographic analysis of vertical root fractures

Cohen S, Berman LH *et al.* *J Endod* 2006; **32**: 1160-1163

**Vertical root fractures (VRFs) were commoner in older patients.**

VRFs frequently involve the pulp and periodontal ligament. Diagnosis is sometimes difficult, and the current study investigated factors associated with 227 VRFs identified by 3 endodontists located in East ( $n = 77$ ) and West (75) coasts of North America, and South America (75). All fractures were confirmed by direct examination after extraction or through a surgical operating microscope.

Patients aged >40 yrs accounted for 87% of fractures, and moderately more (52%) were found in females. Only 1/3 of patients reported bruxism, and 62% of VRF teeth were of physiological mobility. Vital pulps were present in 12%, non-vital pulps in 39% and the remainder had root fillings. Radiographic fractures were visible in only 28%, periapical lesions in 22% and thickened ligament space in 23%. Statistically greater prevalence of VRFs occurred in mandibular molars and maxillary premolars. The authors discuss the problems of diagnosis.

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## ORAL SURGERY; PHARMACOLOGY

### Does prophylactic administration of systemic antibiotics prevent postoperative inflammatory complications after third molar surgery?

Halpern LR, Dodson TB. *J Oral Maxillofac Surg* 2007; **65**: 177-185

**For every 12 subjects treated in this study, one surgical site infection (SSI) was prevented.**

There is disagreement over the need for prophylactic antibiotics in third molar (M3) surgery. In this study, 122 subjects were randomised to antibiotic or placebo for M3 surgery under LA or LA + sedation. There were 4 dropouts. All subjects were fit and healthy in other respects. In the active group, 44 received penicillin and 15, clindamycin. Subjects were followed up within 2 weeks.

Preoperatively, all subjects received dexamethasone, and 15%, antiemetics. On average 3.5 teeth were removed from each patient. In the placebo group, 5 subjects experienced SSIs, and there were no cases of alveolar osteitis. No subject in the active group experienced either complication ( $P = 0.03$ ; one-tailed test). Subjects with complications averaged 1.8 postoperative visits compared with 1 visit for others. The authors comment that all SSIs were associated with mandibular M3s requiring bone removal.

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## CARIOLOGY; DIAGNOSIS; ADVERSE EFFECTS

### Effects of dental probing on occlusal surfaces – a scanning electron microscopy evaluation

Kühnisch J, Dietz W *et al.* *Caries Res* 2007; **41**: 43-48

**A sharp caries probe damaged enamel.**

The traditional caries probe is increasingly criticised as likely to cause caries initiation or progression, especially in fissures. In this study, 18 subjects aged 17-26 yrs and requiring third molar extraction for orthodontic reasons were examined visually to identify pits and fissures which were sound or had initial caries, and these were randomly assigned to 3 groups of 10: sound teeth to be probed; initial caries to be probed; and sound teeth for controls. After probing, teeth were extracted and examined under SEM.

All 10 carious lesions probed had probing marks, and some marks could also be distinguished on cuspal slopes. Only 2 sound surfaces had identifiable marks of the probe. On 2 carious surfaces, enamel was broken by the probe, and in some cases it was compressed. The authors discuss their findings and suggest that dentists should use visual inspection of clean, dry occlusal surfaces, but perhaps employ a rounded probe, such as that used for CPITN, if they felt "naked" without an instrument in their hand.

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## ORAL SURGERY

### Functional sensory recovery after trigeminal nerve repair

Susarla SM, Kaban LB *et al.* *J Oral Maxillofac Surg* 2007; **65**: 60-65

**Functional sensory recovery (FSR) occurred within 1 yr for most subjects.**

Injury to inferior alveolar or lingual nerves is an occasional complication of third molar removal, and nerve repair techniques have been developed. This study included 60 subjects with at least 1 recorded postoperative visit and a score initially less than S2 on the MRC scale for grading peripheral nerve repair after surgery (scores of S3 and above are described as useful sensory recovery).

Repair was by direct anastomosis in 45 cases. In 38 cases an inconspicuous neuroma was identified during surgery and confirmed histologically. By 12 months, 75% of subjects had achieved FSR. Median time to FSR was 218 days. In a multivariate analysis including gender, age, method of repair and operative evidence of neuroma, only the presence of a neuroma made FSR less likely within 1 yr (hazard ratio 0.4, CI 0.2 - 0.85). In the subjects examined within this study, approximately 85% achieved FSR.

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