

Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by John R. Radford.

IMPLANT PLACEMENT – PANORAMIC RADIOGRAPHS

Is linear distance measured by panoramic radiography reliable?

Nishikawa K, Suehiro A *et al.* *Oral Radiol* 2010; **26**: 16–19

The authors assert 'that distance measurements from clinical panoramic radiographs are less reliable than those from CT images and are not recommended.'

Is a panoramic radiograph sufficiently accurate to assure a patient that this diagnostic image can be used for safe placement of dental implants? In this study, the distances between the alveolar crest and the mandibular canal in the premolar/molar region (diagnostic implant stents *in situ*) were compared with those values obtained from CT images (computer tomography - the authors state that CT is 'recognized as the most reliable method for distance measurement'). The measurements were made by three experienced oral radiologists on 20 pairs of images. A magnification factor was used for those values from the panoramic images. This study found that measurements recorded from the panoramic radiographs were consistently less than those from the CT ($p = 0.04$) with an error level of approximately 10%.

DOI: 10.1038/sj.bdj.2011.67

BACTERIAL COMMUNITY PROFILING

Comparison of endodontic bacterial community structures in root-canal-treated teeth with or without apical periodontitis

Zoletti GO, Carmo FL *et al.* *J Med Microbiol* 2010; **59**: 1360–1364

Even when there was an absence of signs and symptoms, a large and diverse microbial community was recovered from the root canal system when carrying out revisionary endodontics.

This study used PCR-denaturing gradient gel electrophoresis (PCR-DGGE). This is a culture independent, rapid fingerprinting technique for different nucleotide sequences has been used in many fields of microbial ecology. Samples were taken from 23 teeth during revisionary endodontics. Twelve of these teeth had radiographic evidence of apical periodontitis. The investigators found that 'no significant pattern of bacterial community profile was associated with root-canal-treated teeth with or without apical periodontitis.' Nevertheless they reported that some of the bands (indicative of bacterial species) were more prevalent than others. In addition, the mean number of bands were higher ($p = 0.04$) in those patients with apical periodontitis.

DOI: 10.1038/sj.bdj.2011.68

DISTRACTION OSTEOGENESIS

Complications after mandibular distraction osteogenesis: a retrospective study of 131 patients

Nørholt SE, Jensen J *et al.* *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2010; xx:xxx

Although there was a high occurrence of minor complications, distraction osteogenesis (DO) 'is considered a safe method for correction of mandibular deformities.'

The aim of this retrospective study, carried out on 131 patients (170 devices placed in total), was to identify complications associated with using an internal mandibular DO device. These devices were used to increase the height of the mandibular ramus after osteotomy cuts. Following DO, 40% had temporary neuropraxia and 12.2% (not stated if the same patients or others) had infections associated with the device. About a quarter of the patients experienced pain and a smaller proportion had practical difficulties activating the device. Of the serious complications, neurotmesis occurred in two patients and TMJ ankylosis in two patients. The former complication should be contrasted with another study that reported that sensory damage occurred in one third of patients following bilateral sagittal split osteotomy.

DOI: 10.1038/sj.bdj.2011.69

SELF-EFFICACY THEORY

Application of self-efficacy theory in dental clinical practice

Kakudate N, Morita M *et al.* *Oral Dis* 2010; **16**: 747–75

Empowering the individual to take action.

At the heart of self-efficacy theory, is empowering the individual to take action. It comprises 1) personal accomplishment (enactive mastery experience), 2) vicarious experience (modelling), 3) verbal persuasion, and 4) physiological and affective states (the individual's 'judgment of self-efficacy'). It can be used as an 'antecedent to behaviour modification' and has favourable outcomes when managing diabetes. In addition, it has been shown to shape actions for oral health and, more recently, it has been demonstrated to improve clinical oral health outcomes. This paper also reports the validity and reliability of a self-efficacy scale for selfcare (SESS) for 1) patients receiving periodontal treatment and 2) oral care carried out by mothers. When considering patients receiving periodontal treatment, SESS can 'predict loss (of patients) to follow-up'.

DOI: 10.1038/sj.bdj.2011.70