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.

DENTIST OR PATIENT VARIATION?

Dentist-specific variation in diagnosis of caries – a multilevel analysis

Dobloug A, Grytten J *et al. Community Dent Oral Epidemiol* 2014; **42**: 185–191

Reassuring but possibly surprising; dentist variation in caries diagnosis is 'fairly low'.

In medicine, it has been shown that when the diagnostic criteria for a condition are well defined the 'physician specific effects' are small. In contrast, when there are ambiguous signs and symptoms, there is large diagnostic variability. When examining inconsistencies between dentists, the usual method is to ask the same dentists to examine the same patients. In this study however, the investigators employed a mixed model (multilevel regression analysis). They used data from 709,611 Norwegian children and adolescents, collected by the public dental services, that identified the extent of carious lesions. Dentist variation was largest for enamel caries compared with dentinal caries and when the carious process involved the pulp. It would have been better to use a generalised linear mixed model as this takes into account low values and when data is non-continuous. This study challenges the much cited ($n = 116$) assertion: 'Even when differences in patients are controlled, variation in dentists' clinical decisions is ubiquitous' (*J Public Health Dent* 1995; **55**: 181–188).

DOI: 10.1038/sj.bdj.2014.785

PRESERVING BONE

Current perspectives on the role of ridge (socket) preservation procedures in dental implant treatment in the aesthetic zone. [Review]

Kassim B, Ivanovski S *et al. Aust Dent J* 2014; **59**: 48–56

Grafting materials placed into extraction sockets delay healing.

Such an inhibition of bone ingrowth would imply implant placement should be deferred. This has been corroborated by studies showing that early placement of implants placed into such sites have decreased early torque; caution therefore, should be exercised with immediate loading. 'Fast-resorbing' materials such as R.T.R® (Septodont, France) and BONDBONE (MIS®, Israel), in contrast to 'slow resorbing' materials (for example, Geistlich Bio-Oss Collagen® - contains 10% porcine collagen) may offer some advantages. Of note, four systematic reviews reported that following tooth extraction, the loss in width of the alveolus is three times that of the height (mean 3.8 mm *vs* 1.24 mm within 6 months after extraction). In this study, an on-line search identified 1,233 titles. On interrogating 22 papers, it was concluded that 1) although socket grafting materials generally augment donor sites, there is lack of predictability when used in conjunction with implants placement, and 2) if initial socket preservation is carried out, invariably supplemental bone grafting is required when the implants are placed.

DOI: 10.1038/sj.bdj.2014.786

SYSTEMATIC REVIEWS

Investigating clinical heterogeneity in systematic reviews: a methodologic review of guidance in the literature

Gagnier JJ, Moher D *et al. BMC Med Res Methodol* 2012; **12**: 111
DOI: 10.1186/1471-2288-12-111

The input of clinicians is encouraged to allow identification of important covariates (covariate = predictor of the outcome of the study, that is continuous) that in turn might inform clinical decision-making.

This paper is not for the faint-hearted. As background, statistical heterogeneity comprises both methodological and clinical sources of heterogeneity. Much has been written about methodological variability. This paper focuses on clinical heterogeneity, specifically '...differences in participant characteristics (e.g., sex, age, baseline disease severity, ethnicity, comorbidities), types or timing of outcome measurements, and intervention characteristics (e.g., dose and frequency of dose)'. Adopting well established search strategies for systematic reviews, the key findings are: 1) baseline risk (risk of an outcome occurring in the comparison group, without the intervention) is ill-defined and requires further investigation, 2) it is important to make a *a priori* choice of clinical covariates, 3) forest plots from published meta-analyses should be interrogated to help identify heterogeneity, and 4) use of meta-regression analysis. Although this important paper suggested for summary by a dental academic was published in 2012, it has only been cited five times.

DOI: 10.1038/sj.bdj.2014.787

TORQUE DETERIORATION

The overuse of the implant motor: effect on the output torque in overloading condition

Lee D-H, Cho S-A *et al. Clin Implant Dent Relat Res* 2014; DOI 10.1111/cid.12195

But what are the clinical implications of these deviations in torque?

It is stated that breaking the 20/50 rule (20 seconds use in every 50 seconds) when using an electric handpiece generates heat in bone with the potential for its necrosis, and heat in the handpiece motor affecting its performance. This study examined deviation in torque of three motors, each manufactured by a different company. For each motor when running at 30 rpm, five sets of ten continuous measurements were made for 40 and 50 Ncm torque settings. There was a 5 minutes cooling time between each torque setting. For 40 Ncm, in all motors there was no significant deterioration after continuous use. However at 50 Ncm, in all motors there was a significant absolute decrease in torque. The KaVo INTRASurg300/CL3-09 and Saeshin XIP10/CRB26LX had similar torque characteristics under these demanding condition. Both motors were superior to those of the NSK SurgicXT/X-SG20L. Despite these findings, all motors had functions with the aim of minimising the effects of such overloading.

DOI: 10.1038/sj.bdj.2014.788