

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 Reena Wadia

Longevity – ceramic onlays

Longevity of ceramic onlays: A systematic review

Abduo J & Sambrook RJ. *J Esthet Restor Dent* 2018; DOI: 10.1111/jerd.12384.

The most common pattern of failure is fracture of the ceramic material and the risk of failure seems to increase if the restored tooth is non-vital and the patient demonstrates parafunctional habits.

This systematic review evaluated the longevity of ceramic onlays and factors that influenced their survival. An electronic search was conducted through PubMed (MEDLINE), Google Scholar and Cochrane Library, up to August 2017. Twenty-one studies were included. The medium-term studies (2–5 years) indicated a survival rate of 91–100%, and the long-term studies (more than 5 years) showed a survival rate of 71–98.5%. The most common reason of failure was fracture, followed by debonding and caries. The most common patterns of deterioration were loss of margin integrity and discoloration. Onlay longevity can be enhanced if the preparation allows for at least 2 mm occlusal ceramic thickness and incorporates additional retentive features. Higher failure rates were associated with non-vital teeth, posterior teeth and when placed in patients with parafunctional habits. Fabrication materials and methods as well as adhesive bonding system were not found to influence onlay longevity.

DOI: 10.1038/sj.bdj.2018.414

Longevity – restorations in primary teeth

Restorations in primary teeth: a systematic review on survival and reasons for failures

Chisini LA *et al.* *Int J Paediatr Dent* 2018; **28**: 123–139.

The most common reason for failure of restorations in primary teeth is secondary caries.

This systematic review aimed to investigate the longevity of primary teeth restorations and the reasons for failure. Longitudinal clinical studies evaluating the survival of restorations (Class I, Class II and crowns) placed with different materials in primary teeth with at least one year of follow up were reviewed. Thirty-one studies were included and a high bias risk was observed. Overall, 12,047 restorations were evaluated. A 12.5% failure rate was found. A high variation on annual failure rate was detected (0–29.9%). Composite resin showed the lowest annual failure rates (1.7–12.9%). Stainless steel crowns had the highest success rate (96.1%). Class I restorations and restorations placed using rubber dam had a reduced annual failure rate. The most common reason for failure was secondary caries (36.5%). The authors suggested the high variation on failure rate among the materials might be due to the child's behaviour during the procedure, which demands short dental appointments and a controlled environment.

DOI: 10.1038/sj.bdj.2018.416

Longevity – implants

Influence of different implant geometry in clinical longevity and maintenance of marginal bone: a systematic review

Lovatto ST *et al.* *J Prosthodont* 2018; DOI: 10.1111/jopr.12790.

Implant geometry seems to have little influence on marginal bone loss, survival and success rates.

This systematic review assessed the influence of different implant geometries on clinical longevity and maintenance of marginal bone tissue. An electronic search was conducted on MEDLINE, Scopus and Web of Science databases. Only randomised controlled trials that compared dental implants and their geometries were included. Two reviewers independently selected studies, extracted data and assessed the risk of bias. From the ten studies that were included, a similar behaviour of marginal bone loss between tapered and cylindrical geometries was observed. However, implants that had micro-threads in the neck presented with a slight decrease of marginal bone loss compared to implants with a straight or smooth neck. Success and survival rates were high, with cylindrical implants presenting higher success and survival rates than tapered ones. However, the evidence in this systematic review was classified as very low due to limitations such as study design, sample size and publication bias. Therefore, the authors suggest more well-designed RCTs should be conducted to provide evidence regarding the influence of implant geometry on marginal bone loss and survival and success rates after one year of implant placement.

DOI: 10.1038/sj.bdj.2018.415

Longevity – anterior resin bonded bridges

Longevity of anterior resin bonded bridges: Survival rates of two tooth preparation designs

Abuzar M *et al.* *Aust Dent J* 2018; DOI: 10.1111/adj.12612.

Anterior resin bonded bridges with described tooth preparation designs demonstrate a high survival rate.

Significant developments have occurred in the design of resin bonded bridges. This study retrospectively looked at a cohort of patients who had received anterior resin retained bridges over two decades. Two modified tooth preparation designs were investigated and these included: mesial and distal vertical grooves only or one proximal groove adjacent to the pontic and two palatal grooves. Longevity of 206 anterior resin bonded bridges was assessed using Kaplan-Meier probability estimates. Overall survival rate of the anterior resin bonded bridges was found to be 98% at 5 years, 97.2% at 10 years, and 95.1% from 12–21 years. Survival curves showed minor differences when compared for the two designs, age groups and gender. Differences in the proportion of surviving bridges for either design were not statistically significant.

DOI: 10.1038/sj.bdj.2018.417