

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

Fracture resistance of veneers in premolars

Fracture resistance of veneers in premolars

Linhares LA, Pottmaier LF, Lopes GC. *Eur J Dent* 2018; 12: 191–198.

Minimally invasive tooth preparation allowed achievement of a higher fracture resistance of lithium disilicate ceramic veneers.

This study compared the fracture resistance of ceramic veneers and composite resin veneers with and without dental preparation. Forty freshly extracted mandibular premolars were selected and randomly assigned into four groups. Group NPR = no dental preparation and direct veneer with 0.2 mm thick composite resin (Amelogen Plus, Ultradent); Group NPC = no dental preparation and 0.2 mm thick lithium disilicate ceramic veneer (IPS e.max Press, Ivoclar Vivadent); Group P2C = tooth preparation of 0.2 mm and 0.2 mm-thick ceramic veneer (IPS e.max Press); and Group P5C = tooth preparation of 0.5 mm and 0.5 mm-thick ceramic veneer (IPS e.max Press). In all groups, the restorations covered 1 mm of the occlusal surface of the buccal cusp. After luting, all groups were thermocycled and subjected to fracture resistance tests under compression. There were significant differences of the fracture resistance values between all groups. NPR and NPC groups showed mean values of fracture resistance significantly lower than P2C. P5C presented intermediate values without a significant difference from the other groups. The mode of failure for all groups was mixed (60%), cohesive failures (20%), root failures (15%), and adhesive failures (5%).

DOI: 10.1038/sj.bdj.2018.956

Direct chairside vs digitally fabricated crowns

Comparison between direct chairside and digitally fabricated temporary crowns

Abdullah AO, Pollington S, Liu Y. *Dent Mater J* 2018; DOI: 10.4012/dmj.2017-315.

[Epub ahead of print].

CAD/CAM temporary crowns demonstrated superior mechanical properties compared to direct handmade counterparts.

This study investigated marginal fit, internal fit, fracture strength and mode of fracture of CAD/CAM temporary crowns when compared with direct chairside counterparts. An upper left first premolar Frasco tooth was prepared for an all-ceramic crown. The materials used for comparison were VITA CAD-Temp, ArtBlocTemp, PMMA DISK and Acrytemp (control group). The crowns were divided into four groups (n = 10). The average marginal gap, internal gap and fracture strength showed statistically significant difference between groups. The fracture mode showed statistically non-significant difference (p > 0.05) among experimental groups. The CAD/CAM temporary crowns demonstrated superior mechanical properties compared to direct handmade counterparts.

DOI: 10.1038/sj.bdj.2018.958

Influence of light-cured luting agents on colour

Influence of light-cured luting agents and associated factors on the colour of ceramic laminate veneers: A systematic review of *in vitro* studies

Perroni AP *et al.* *Dent Mater* 2018; DOI: 10.1016/j.dental.2018.08.298.

[Epub ahead of print].

The colour of the veneers was influenced by the translucency and value of the luting agents as well as ceramic thickness and opacity.

This systematic review investigated the influence of light-cured luting agents and colour-associated factors. A search of *in vitro* studies that quantitatively investigated the influence of light-cured luting agents on the colour of ceramic laminate veneers was conducted. A meta-analysis was not possible due to heterogeneity. In all 3,630 studies were identified, 48 were selected for full-text analysis and 21 remaining papers met the inclusion criteria. Considering the shade aspects of luting agents, translucency and value showed the greatest visible colour differences for CLVs. It was found that the effect of luting agent shade on the colour of veneers was affected by ceramic thickness and opacity.

DOI: 10.1038/sj.bdj.2018.957

PROMs of single-implant crowns using digital workflows

Patient Reported Outcome Measures (PROMs) of posterior single-implant crowns using digital workflows: A randomised controlled trial with a three-year follow-up

Joda T, Ferrari M, Bragger U, Zitzmann NU. *Clin Oral Implants Res* 2018; 29: 954–961.

Subjective patient perception of posterior implant crowns processed in a complete digital or combined analog-digital workflow revealed comparable levels of satisfaction.

This randomised controlled trial aimed to analyse Patient Reported Outcome Measures (PROMs) of implant crowns processed in a complete digital workflow or a combined analog-digital workflow with a 3-year follow-up. Twenty participants were selected for single-tooth replacement with screw-retained crowns in posterior sites (Straumann TL Implant System). Ten patients were treated with test or control workflows and evaluated after 1 week of prosthetic delivery (baseline) and at 3 years. The subjective opinion of the patient was assessed using visual analog scales for PROMs and the Functional Implant Prosthodontic Score (FIPS) for the objective evaluation of the dentist. In both groups, implant crowns showed 100% survival without technical and/or biological complications. Mean PROMs showed no difference between the groups, or between baseline and after 3 years for intra-patient comparison. Linear regression analysis exhibited a significant correlation between FIPS and PROMs related to overall treatment satisfaction.

DOI: 10.1038/sj.bdj.2018.959