

The effect of recast base metal alloys on crown's marginal accuracy

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Abstract

The purpose of this study was evaluation of the influence of recasting base metal alloys on internal and vertical marginal adaptation of the casting crowns. Sixty crowns with identical thickness have been made out of wax over 60 metallic models. Wax copings were randomly divided into 3 groups of 20. Group A contained 100% new alloys, group B included 50 new-alloys and 50% once recast alloys and group C comprised 100% once recast alloys. Each group of 20 objects was randomly separated into 2 groups of 10 specimens. One of the groups was casted with Supercast base metal alloys and the other was casted with Verabond base metal alloy. Having placed and cemented the caps, the vertical distance of restoration margins to die's finishing line was measured and recorded in four points of buccal, lingual, mesial and distal using a stereo-microscope with detection of one micron. Then the dies were cut buccolingually and the internal distance between the margin and die was measured in buccal and lingual. The data were statically analyzed using one-way ANOVA and t-test with the confidence interval of 95%. Meaningful differences were not detected among the three groups in terms of average internal and vertical gaps in Supercast and Verabond alloys. There was no discrepancy in internal and vertical gap between Supercast and Verabond using various percentages of alloys. According to the result of this study on using the three various Supercast and Verabond alloys (100 new alloys, 50 new-alloys and 50% once recast alloys and 100% once recast alloys), regarding the internal and vertical gap indicators no difference was noticed.

Reaxys Database Information

Author keywords

Internal gap; Recasting; Vertical gap

Indexed Keywords

EMTREE drug terms: alloy; tooth cement; zinc phosphate

EMTREE medical terms: article; controlled study; denture; equipment design; intermethod comparison; stereomicroscopy; thickness; tooth crown; tooth prosthesis

Chemicals and CAS Registry Numbers: zinc phosphate, 13847-22-8, 7779-90-0

Device tradename: Supercast, Thermabond, United States, Verabond, Alba Dent, United States.

Manufacturers: Device manufacturer: Alba Dent, United States; Thermabond, United States.

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