

Pala® Teeth – Premium, Idealis & Mondial

Plaque resistance – UKR Regensburg

Adhesion of streptococcus mutans NCTC 10449 to artificial teeth: An in vitro study.

Colour stability – São Paulo State University, Brazil

Effect of polymerization methods and thermal cycling on color stability of acrylic resin denture teeth.

As well as natural teeth also denture teeth are susceptible to discoloration and plaque adhesion in clinical everyday life. When choosing denture materials artificial teeth with high plaque resistance and high colour stability should be selected to ensure a good hygiene capability and a long lasting esthetic stability.

The following two *in vitro* studies prove the excellent plaque resistance and colour stability of the Flexecure® technology, which is used for Premium, Idealis and Mondial.

Giving a hand to oral health.



KULZER
MITSUI CHEMICALS GROUP

Adhesion of streptococcus mutans NCTC 10449 to artificial teeth: An in vitro study.

Objective

A high plaque resistance of denture teeth contributes to a good hygiene capability of removable dentures. Aim of this in-vitro study was the determination of adhesion of Streptococcus mutans bacteria to the surface of different artificial teeth.

Materials & Methods

Standardised specimens of 12 different tooth lines (anterior and posterior) were incubated with Streptococcus mutans NCTC 10449 at 37°C for 2.5h. A fluorometric assay (Resazurin reduction) was used for the quantification of accumulated microorganisms. The relative intensity of the fluorescent signal is directly proportional to the number of adherent microorganisms.

Results

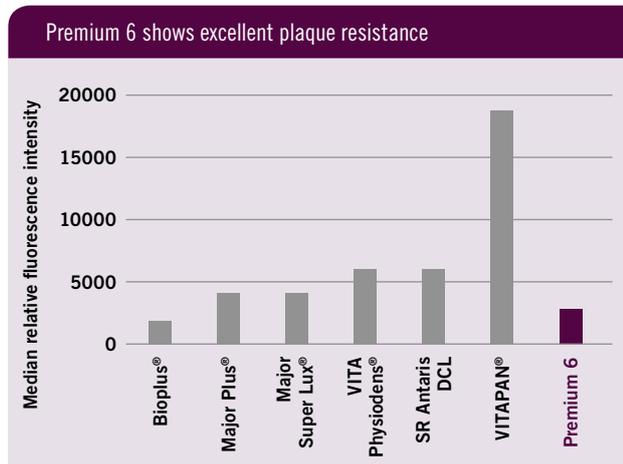


Fig. 1: Median relative fluorescence intensity of anterior tooth lines after incubation with Streptococcus mutans.

Conclusions

Premium 6 and Bioplus® anterior teeth showed the lowest values for adhesion of Streptococcus mutans (Fig. 1). No statistically significant differences were found between Premium 6 and Bioplus®. In order to prevent the development of denture stomatitis the authors recommend dental materials with low susceptibility to plaque accumulation.

Source

Hahnel S, Rosentritt M, Bürgers R, Handel G: Adhesion of Streptococcus mutans NCTC 10449 to artificial teeth: an *in vitro* study. J Prosthet Dent. 2008 Oct; 100(4):309-15.

Effect of polymerization methods and thermal cycling on color stability of acrylic resin denture teeth.

Objective

Discolouration of denture teeth negatively affects the esthetics of removable dentures. Aim of the investigation was to determine the influence of different polymerization methods and thermal cycling on the colour stability of artificial teeth.

Materials & Methods

The colour of ten different tooth lines was measured before polymerization, after polymerization (microwave, 500W for 3 minutes, or water bath, 7 °C for 9 hours) and after subsequent thermal cycling (5000 cycles between 5 °C and 55 °C) using a spectrophotometer. The respective colour difference (Delta E) was calculated.

Results

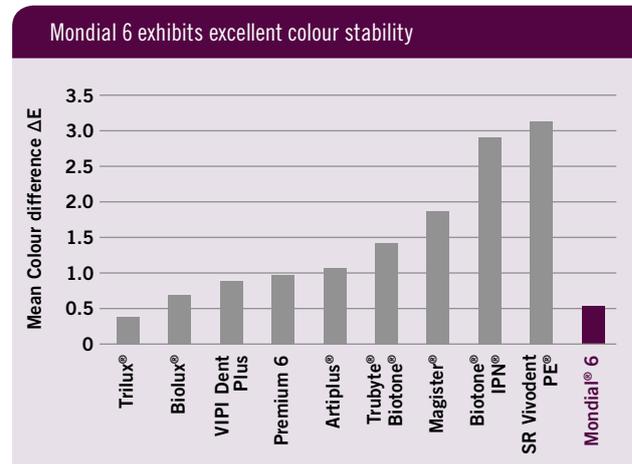


Fig. 2: Mean colour difference ΔE in denture teeth after conventional polymerization between thermal cycling and baseline.

Conclusions

Mondial 6 and Trilux® showed the lowest colour differences (Fig. 2). No statistical significant difference was detected between them. All colour differences obtained were assessed as not clinically relevant.

Source

Assunção WG, Barão VA, Pita MS, Goiato MC: Effect of polymerization methods and thermal cycling on color stability of acrylic resin denture teeth. J Prosthet Dent. 2009 Dec; 102(6):385-92.

The study was abbreviated and summarised and all diagrams and titles have been established by Kulzer.

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