The temperature of both the disinfectant and the water used was $23 \pm 1^{\circ}$ C. The entire experiment was conducted at a room temperature of $23 \pm 1^{\circ}$ C and a relative humidity of $50\% \pm 10\%$.

Results

The results of surface porosity determination for the stone casts are shown in Table 2. The surface porosities were observed by Examixfine Injection Type (EMI), Examixfine Regular Type (EMM), and Imprint 3 Monophase (I3M). The corresponding photographs are shown in Fig 2.

Discussion

While addition silicone is based on addition polymerization between polydivinyl siloxane and polymethyl hydrosiloxane, the residual polymethyl hydrosiloxane in materials can lead to a secondary reaction, either with itself or with moisture, to produce hydrogen gas.² Therefore, it is recommended that addition silicone should be left for 30 minutes before pouring into dental stone.⁵ In this study, no surface porosity was observed under C30 conditions for any of the addition silicone products. Some products showed no surface porosity even under C0 conditions. However, EMI and I3M impressions immersed in disinfectant for 30 minutes showed some surface porosity. Therefore, the disinfectant solutions might have increased the release of hydrogen gas or interfered with the activity of hydrogen gas scavengers.

Conclusions

It may be necessary to allow sufficient time before pouring impression materials immersed in disinfectant solutions into dental stone dies.

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Literature Abstract

Amalgam or composite fillings—Which material lasts longer?

This review article was abstracted from an article found in the Cochrane Database Systemic Review 2014. Its objective was to investigate the failure rate of direct composite acrylic resin fillings versus amalgam fillings for permanent posterior teeth. Seven studies were selected, out of which data from only two parallel studies were included in the meta-analysis. A total of 871 participants, 6 to 12 years old, provided data, which was recorded for between 5 and 7 years. Most restorations in these studies were placed with the use of a rubber dam. It was found that the failure rate for amalgam was 7.5% and 14.2% over the period of investigation. The risk ratio of failure for composite compared to amalgam was 1.89 with 95% confidence interval (CI) of 1.52 to 2.35, leading to the inference that composites failed twice as often as amalgams. The primary mode of failure was attributed to caries, rather than fracture. However, there was a high risk of bias for the selected studies, and the lack of records regarding baseline caries experience in the participants. The author advised that if this data were to be applied clinically, one could expect replacement of composite restorations twice as often relative to amalgam. In conclusion, there is low-quality evidence to propose that composites may lead to increased failure rates and increased risk of secondary caries as compared to amalgam.

Hurst D. Evid Based Dent 2014;15:50–51. References: 3. Reprints: Department of Adult Oral Health, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, London, and Department of Primary Care Health Sciences, University of Oxford, Oxford, UK. — Sheralyn Quek, Singapore

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