

OSC7: Development of Prescale Film for Occlusal Force Analysis: A Pilot Study

Rostam Iffendi Idris¹, Noor Izzati Tasri¹,
Siti Fatimah Yusof¹, Yoshinobu Shoji², Tong Wah Lim¹

¹Centre for Restorative Dentistry Studies, Faculty of Dentistry, Universiti Teknologi MARA, Sungai Buloh Campus, Jalan Hospital, 47000 Sungai Buloh, Selangor, Malaysia, ²Center for Oral and Maxillofacial Diagnostic and Medicine, Faculty of Dentistry, Universiti Teknologi MARA, Sungai Buloh Campus, Jalan Hospital, 47000 Sungai Buloh, Selangor, Malaysia.

Aim: The aim of this study was to devise and optimise a design of pressure sensitive sheet known as Prescale film (Fujifilm Corp. Kuala Lumpur, Malaysia) for occlusal force analysis at the dental office and to compare occlusal forces using Prescale film with and without disposable polyethylene (PE) sleeve.

Materials and methods: The development of Prescale film for occlusal force measurement initiated with the design of the film into horseshoe shape according to shape of the arches, and the film is fully covered by PE sleeve for hygienic reason. 10 dentate patients (27 to 44 year-old) were recruited in this pilot study. All patients were asked to bite on these two types of designs (Group A: with PE sleeve; Group B: without PE sleeve) and mean values were recorded. The films were calibrated for analysis using Pressure Distribution Mapping System FPD-8010E software (Fujifilm Corp., Tokyo, Japan). The data were statistically analysed using Wilcoxon signed rank test in SPSS version 23.0 statistical software.

Results: The occlusal forces for Group A and Group B varied widely from 191.0N to 625.0N and from 197.0N to 609.0N respectively. However, no significance difference was found between these two groups, p value was 0.706 ($p > 0.05$).

Conclusion: This finding proposed that Prescale film with PE sleeve can be used as a novel design to measure the occlusal forces of patients due to its accuracy, simplicity, hygienic, cost effective and easy to handle.

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